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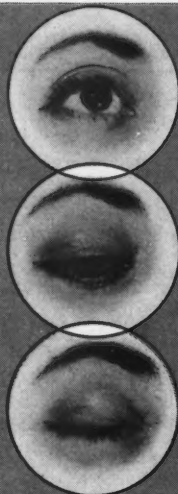
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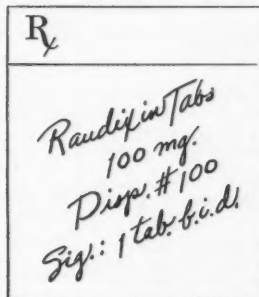
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Secy., Neely E. Bradford, Box D, Boonville.

Merced County Medical Society. Meets Fourth Thursday, Hotel Tioga, Merced.
Pres., Harry R. Maytum, 595 East 26th St., Merced.
Secy., Gerald D. Wood, 544 West 25th St., Merced.

Monterey County Medical Society, P. O. Box 308, Salinas. Meets First Tuesday.
Pres., Chester G. Moore, 484 S. Main St., Salinas.
Secy., Seymour Turner, 921 E. Alisal St., Salinas.

Napa County Medical Society. Meets Second Wednesday.
Pres., Wrenshall A. Oliver, Box "A," Imola.
Secy., Robert C. Ashley, 2560 Jefferson St., Napa.

Orange County Medical Association, 1226 N. Broadway, Santa Ana. Meets First Tuesday, 7:00 p.m.
Pres., Ralph E. White, 203 E. 8th St., Santa Ana.
Secy., Chad M. Harwood, 1202 N. Broadway, Santa Ana.

Placer-Nevada-Sierra County Medical Society. Meets every second Wednesday of each month.
Pres., D. M. Kindopp, 1130 Lincoln Way, Auburn.
Secy., T. J. Rossitto, 1166 High St., Auburn.

Riverside County Medical Association, 4241 Market Street, Riverside. Meets Second Monday, 8:00 p.m., El Loro Room, Mission Inn.
Pres., Richard N. Boylan, 3616 Main St., Riverside.
Secy., Vean M. Stone, 4241 Market St., Riverside.

Sacramento Society for Medical Improvement, 2731 Capitol Ave., Sacramento. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
Pres., Jack V. Chambers, 2100 Capitol Ave., Sacramento.
Secy., Charles E. Schoff, 1116 26th St., Sacramento.

San Benito County Medical Society. Meets First Thursday, Hazel Hawkins Memorial Hospital, Hollister.
Pres., E. C. Sheldon, 1610 Cienega Road, Hollister.
Secy., E. Nelson Moore, 1470 Buena Vista Road, Hollister.

San Bernardino County Medical Society, 615 D St., San Bernardino. Meets First Tuesday, 8:00 p.m., San Bernardino County Charity Hospital.
Pres., Frank C. Melone, 124 F St., Ontario.
Secy., Wendell L. Ogen, 615 D St., San Bernardino.

San Diego County Medical Society, 101 Medical-Dental Bldg., San Diego 1. Meets Second Tuesday, Mission Valley Country Club, 950 West Camino Del Rio.
Pres., Ralph B. Mullenix, 3415 Sixth Ave., San Diego 3.
Secy., James I. Knott, 3712 30th St., San Diego 4.

San Francisco Medical Society, 250 Masonic Ave., San Francisco 18. Meets Second Tuesday, 8:15 p.m., 250 Masonic Ave., San Francisco 18.
Pres., Herbert C. Moffitt, Jr., 250 Masonic Ave., San Francisco 18.
Secy., Robert C. Combs, 250 Masonic Ave., San Francisco 18.

San Joaquin County Medical Society. Meets First Thursday, 8:15 p.m., 936 N. Commerce St., Stockton.
Pres., John F. Mayo, 310 W. Pine St., Lodi.
Secy., Frank A. McGuire, 305 Medico-Dental Bldg., Stockton.

San Luis Obispo County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo.
Pres., Emil C. Oberson, Marsh at Garden Sts., San Luis Obispo.
Secy., Tibor A. Beresky, 1304 Garden St., San Luis Obispo.

San Mateo County Medical Society, 122 Second Ave., San Mateo. Meets Third Tuesday of each month.
Pres., James S. Edwards, 36 N. San Mateo Dr., San Mateo.
Secy., Henry A. Brown, 77 N. San Mateo Dr., San Mateo.

Santa Barbara County Medical Society, 300 West Pueblo St., Santa Barbara. Meets Second Monday, Cottage Hospital.
Pres., J. Gary Campbell, 1525 State St., Santa Barbara.
Secy., A. E. Wentz, 300 West Pueblo St., Santa Barbara.

Santa Clara County Medical Society, 1024 The Alameda, San Jose 26. Meets Third Monday of every month, except in July and August.
Pres., Pierce C. Barrette, 634 E. Santa Clara St., San Jose.
Secy., Henry C. Dahleen, 652 E. Santa Clara St., San Jose.

Santa Cruz County Medical Society. Meets every Second month, Second Tuesday. Time, place to be announced.
Pres., H. S. Barr, 850 Main St., Watsonville.
Secy., Samuel B. Randall, 230 Walnut Ave., Santa Cruz.

Shasta County Medical Society. Meets First Monday.
Pres., Rex N. Carr, 2007 Pine St., Redding.
Secy., Roland Jantzen, 1726 Market St., Redding.

Siskiyou County Medical Society. Meets Sunday on call.
Pres., Werner F. Hoyt, Lassen Lane, Mt. Shasta.
Secy., Dragutin D. Todorovic, 224 Branstetter St., Dunsmuir.

Solano County Medical Society. Meets Second Tuesday, 8:00 p.m., at different meeting places.
Pres., Melvin A. Schmutz, 650 Tennessee St., Vallejo.
Secy., John C. Miller, 1000 Marin St., Vallejo.

Sonoma County Medical Society, 300 American Trust Bldg., Santa Rosa. Meets Second Thursday.
Pres., Robert S. Westphal, 3325 Chanate Road, Santa Rosa.
Secy., Frank E. Lones, 300 American Trust Bldg., Santa Rosa.

Stanislaus County Medical Society. Meets Third Thursday of the month, 7 p.m., Hotel Covell, Modesto.
Pres., Ivan E. Martin, 1628 I St., Modesto.
Secy., Robert W. Purvis, 709 - 18th St., Modesto.

Tehama County Medical Society. Meets at call of President.
Pres., Harve Wm. Jourdan, 410 Pine Street, Red Bluff.
Secy., Frank N. Townley, 304 East Solano, Corning.

Tulare County Medical Society.
Pres., J. J. McNearney, 140 N. M St., Tulare.
Secy., Gordon L. Jackson, P.O. Box 345, Terra Bella.

Ventura County Medical Society. Meets Second Tuesday, 7:15 p.m., Colonial House, Oxnard.
Pres., R. F. Robertson, 813 Yale, Santa Paula.
Secy., F. K. Helbling, 34 N. Ash St., Ventura.

Yolo County Medical Society. Meets First Wednesday.
Pres., Thomas Y. Cooper, 218 F St., Davis.
Secy., Neil D. Elzey, Woodland Clinic, Woodland.

Yuba-Sutter-Colusa County Medical Society. Meets Second Tuesday.
Pres., John F. Belz, 725 4th St., Marysville.
Secy., Robert I. Hodgkin, 729 D St., Marysville.

(For roster of C.M.A. committees and other organizations, see last month's issue.)

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Physicians to Take Active Part in California Conference on Rural Health

"Operation Success" is the theme for the second annual California Conference on Rural Health to be held January 20-21, 1956, at the Fresno Hacienda in Fresno.

Physicians throughout California are providing active leadership and interest in the conference which is sponsored by the California Rural Health Council of which the California Medical Association is a member. Heading up the conference program committee is Dr. Carroll B. Andrews, Sonoma. Dr. Robb Smith, Orange Cove, is the California Medical Association representative on the Rural Health Council and is chairman of the conference evaluation and summary committee.

Other physicians and their discussion topics include: Dr. Thomas N. Elmendorf, Willows, "Butte County Public Health Survey"; Dr. Charles W. Jeffries, Point Arena, "Getting a Doctor—and Keeping Him"; Dr. James E. Feldmayer, Exeter, "Planning and Building Our Hospital"; and Dr. Francis T. Hodges, San Francisco, "A Physician Looks at Rural Medical Services."

A feature of the session will be a modified exhibit of the Fresno County "West Side" Agricultural Labor project with discussions by people who are actually doing the work. Dr. Benjamin E. Packer, Fresno, will discuss the role of the Fresno County Medical Society and his work at the health center.

Aubrey D. Gates, field director of the American Medical Association's Council on Rural Health, will moderate the conference and Glenn Gillette of the California Medical Association's Public Relations Department is chairman of the publicity committee.

Health insurance, home nursing programs, the new dental care insurance program of the State Dental Association, hospital costs and how the farmer can improve his health coverage will be discussed by experts in their fields. There will be ample opportunity for audience participation. Some 400 people are expected to attend the conference.

Nadine Costner, field secretary of the young people's department of the California Farm Bureau Federation, will conclude the conference with a talk on "Youth Views the Future of Successful Health."

A. E. O'Donnell of the California Farm Bureau Federation is general chairman of the conference.

Member organizations of the Rural Health Council are: California Medical Association; the California Farm Bureau Federation; State Department of Public Health; California Academy of General Practice; California Congress of Parents and Teachers; Agricultural Extension Service and School of Public Health of the University of California.



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Rockefeller Foundation Grants Favor Medicine

During the year 1954 the Rockefeller Foundation made grants of \$5,102,796 for medicine and public health, out of a total of \$19,107,665. In addition, out of 334 fellows active during the year, 149 were studying in the field of medicine and public health. On medical education: "The foundation's long interest in medicine continues to move toward strong support for professional education, with special attention to key institutions in countries which are struggling to bring their medical services up to the standards of modern scientific medicine." On medi-

cal research: "The principal contribution the . . . foundation is making to the investigation and control of specific diseases is its virus program . . . a broad study of insect-borne viruses capable of attacking man . . ." Medical grants during 1954 include \$400,000 to Washington University School of Medicine for research and training in skin disorders, \$150,000 to the National Research Council's Committee in Problems of Sex, \$121,275 to the University of Saskatchewan in Canada for studies of schizophrenia, and \$275,000 to Harvard University for research and teaching of complete family medical care.

—A.M.A. Washington Letter



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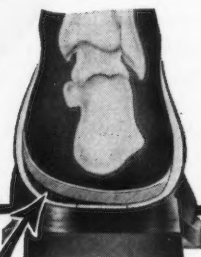
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SURGERY—Surgical Technic, Two Weeks, January 23, February 6.
Surgical Anatomy & Clinical Surgery, Two Weeks, March 5.
Surgery of Colon & Rectum, One Week, February 27, April 9.
General Surgery, One Week, February 13, Two Weeks, April 23.
Basic Principles in General Surgery, Two Weeks, April 9.
Gallbladder Surgery, Ten Hours, April 9.
Fractures & Traumatic Surgery, Two Weeks, March 12.
GYNECOLOGY—Office & Operative Gynecology, Two Weeks, February 13, March 12.
Vaginal Approach to Pelvic Surgery, One Week, February 6, March 5.
OBSTETRICS—General & Surgical Obstetrics, Two Weeks, February 27, March 26.
MEDICINE—Internal Medicine, Two Weeks, May 7.
Electrocardiography & Heart Disease, Two-Week Basic Course, March 12.
Gastroscopy, Forty-Hour Basic Course, March 19.
Dermatology, Two Weeks, May 7.
RADIOLOGY—Diagnostic X-Ray, Two Weeks, February 6.
Clinical Use of Radioactive Iodine, One Week, April 2.
Clinical Uses of Radioisotopes, Two Weeks, May 7.
PEDIATRICS—Intensive Review Course, Two Weeks, May 14.
Neurological Diseases; Cerebral Palsy, Two Weeks, June 18.
UROLOGY—Two-Week Course, April 16.
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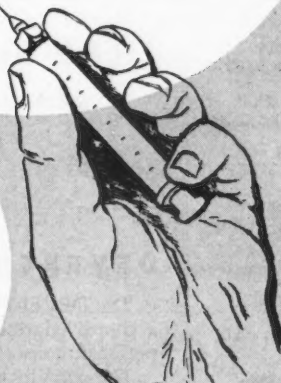
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New Artificial Respiration Method Described

A new method of manual artificial respiration for children in the helpless age—under two years—has been proposed by a United States Navy Medical Corps officer.

The method, which depends on the movement of the child's own internal organs, is outlined in a recent issue of the *Journal of the American Medical Association* by Capt. H. J. Rickard, U. S. Naval Air Missile Test Center, Point Mugu, California.

In the Rickard "prone tilting—visceral shift method," the child is laid face down on the outstretched forearm with the head in the operator's hand and the legs straddling the elbow joint. The operator's arm is moved in "see-saw" fashion, so the child's body is raised and lowered. This makes the abdominal viscera push and pull on the diaphragm, forcing air in and out of the lungs.

Capt. Rickard made the proposal because of "the critical need for a practical, safe and efficient method of artificial respiration" for these small children, who have more opportunity for accidental asphyxiation than any other age group.

In addition, accidents—broken ribs and punctured lung tissue—have occurred during resuscitation by the regular external pressure methods, be-

cause of the difference in weight between the child and the adult giving artificial respiration.

The method is intended for children ranging in weight from seven to 28 pounds, or those from one week to two years old. Capt. Rickard pointed out that some two-year-olds have developed sufficiently so that the arm lift-back pressure method may be used with some caution.

The procedure is simple, requires no great effort, and is easily learned, Capt. Rickard said. It is safe because the external pressures are replaced by internal pressures. It also provides for an airway through the mouth by use of a finger to hold the tongue down.

A step-by-step outline of the procedure follows:

1. Position of the child: The middle finger of the right hand is placed in the child's mouth, over the tongue, in order to draw the tongue slightly forward and depress it into the floor of the mouth. This provides the airway.

The other fingers are placed on either side of the lower jaw to support the head. The child is placed in a face-down (prone) position on the right forearm with the arms and legs straddling the arm. The left hand is placed palm down across the back with fingers spread on either side of the neck and hooking across the shoulders to hold the child in place.

(Continued on Page 26)

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New Artificial Respiration Method Described

(Continued from Page 20)

2. Position of the operator: He rises to a standing position with the child draped along the forearm, which is kept parallel to the ground. The upper arm is kept close to the body in order to support the weight of the child.

The operator may also kneel or sit with the right elbow resting on the right knee cap. However, the right knee must be kept high enough from the ground to insure sufficient room for lowering the child's body.

3. Expiratory phase: The procedure always begins with the breathing-out phase. The forearm is lowered approximately 45 degrees, placing the child

in a head-down position. The abdominal viscera shift toward the chest and push against the diaphragm, forcing the air out of the lungs. At the same time fluids and debris drain from the mouth.

4. Inspiratory phase: For the breathing-in phase, the forearm is raised to about 45 degrees, which places the child in a head-up position. The abdominal viscera shift downward, causing a pull or tug on the diaphragm which results in air being sucked into the lungs.

5. Rate and rhythm: The rate of tilting is between eight and 12 times a minute. To do this the operator repeats, "Out goes the bad air, in comes the good air," for a complete cycle of 12 times a minute. For

(Continued on Page 38)



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A recent clinical study* of 46 ambulatory nonhospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

Nulacin tablets are supplied in tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical sample.

*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, *Am. J. Digest. Dis.* 22:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

a standard by which to judge

There is little that *isn't* known about broad-spectrum AUREOMYCIN. Doctors have observed its action against a wide variety of infections involving many types of cases. They have recorded their findings with more than 8,000 papers in the literature. Seven years of use in every medical field confirms these conclusions.

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AUREOMYCIN SF combines effective antibiotic action with vitamin supplementation to shorten convalescence and hasten recovery. One capsule, q.i.d., supplies one gram of AUREOMYCIN and B complex, C and K vitamins in the Stress Formula suggested by the National Research Council.

AUREOMYCIN SF Capsules are dry-filled and sealed, contain no oils or paste.

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Pyridoxine HCl..... 0.5 mg.

Calcium Pantothenate..... 5 mg.
Vitamin B₁₂..... 1 mcgm.
Folic Acid..... 0.375 mg.
Vitamin K (Menadione)..... 0.5 mg.

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Rauwolfia Sometimes Has Reverse Effect

A drug which has been used extensively to treat mental illness may sometimes have a reverse effect—causing depression and anxiety—when given in large doses for high blood pressure.

Rauwolfia serpentina (Raudixin) and its derivative, reserpine (Serpasil or Serpine) apparently “trigger” mental difficulties in “somewhat unstable” individuals. Yet these “snakeroot” drugs have been successful in mental illness because of their tranquilizing effects.

Since the drugs are “quite useful” in treating high blood pressure, and since other side effects are not serious, it would be worthwhile if some way could be found to recognize those patients who might become depressed when given the drugs, three physicians concluded.

Drs. Richard W. Achor, Norbert O. Hanson and Ray W. Gifford, Jr., Rochester, Minn., reported in a recent issue of the *Journal of the American Medical Association* that 10 of 58 patients developed emotional upsets when given either Rauwolfia or reserpine.

The mildest form consisted of increased tenseness, restlessness, insomnia and a feeling of being very uncomfortable. Three experienced “a truly major depression,” while three others were moderately depressed and four had mild but definite depressive episodes.

In another group of 70 patients followed by the Rochester physicians 15 patients developed depressive states after several months of treatment with the drug.

Two other reports in a recent issue of the *Journal of the American Medical Association* also tell of patients who became depressed while taking the drugs for essential hypertension.

Drs. John C. Muller, William W. Pryor, James E. Gibbons and Edward S. Orgain of Durham, North Carolina, told of seven patients (from a group of 93) who became mentally ill and were hospitalized.

Their symptoms included insomnia, inability to concentrate, despondency, feelings of anxiety, and apprehension. Two improved with a simple routine of rest, reassurance and encouragement, while the other five required electric shock therapy.

None of the seven was mentally ill at the beginning of treatment, but five gave histories of previous psychiatric illness, they said.

Two St. Louis physicians, Drs. Henry A. Schroeder and H. Mitchell Perry, Jr., reported the development of psychoses in five individuals. None had a history of mental illness, and all five recovered completely after withdrawal of the drug. Nervousness, insomnia and agitation appeared in other patients, they said.



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When you prescribe a multivitamin product for an infant, a growing child, or a mother-to-be, make certain you choose one containing an adequate amount of Folic Acid. This B-complex vitamin is essential to the formation of all body cells, including red blood cells, and consequently, a vital factor in normal growth. Although essential to all, it assumes even greater importance during infancy and pregnancy.

So that you may conveniently prescribe a complete and adequate regimen for such cases, leading pharmaceutical manufacturers include Folic Acid in many of the vitamin preparations that they offer. This message is presented in their behalf.



Cirrhosis in Children

Cirrhosis of the liver—a condition commonly associated with alcoholism in adults—occurs more frequently in children than is generally thought, according to three Boston physicians.

However, cirrhosis—the progressive destruction of liver cells—is quite different in children than in adults.

The most common adult form is caused by alcoholism and its resulting nutritional disturbances, while the childhood forms in the United States are usually caused by a hepatitis or by malformation of the liver and its parts which exists at birth.

The physicians reported 98 cases of cirrhosis of the liver seen at Children's Medical Center, Boston, between 1924 and 1953. Sixty-one were caused by obstructions and deformities of the liver, while 30 were associated with hepatitis. Seven resulted from miscellaneous causes, including heart, blood and bile duct disorders.

The frequency of cirrhosis associated with hepatitis is "surprising and important," the physicians said, suggesting that hepatitis is not entirely harmless among children. It emphasizes the need for recognizing mild cases of hepatitis without jaundice and the careful follow-up of known cases after signs and symptoms have disappeared, they said.

They noted hypothetically that hepatitis in infants may be acquired before birth from mothers who

have been infected through blood transfusions but show no symptoms themselves.

The Boston cases of cirrhosis differ greatly from those of children in India, Africa and the West Indies, where the disease apparently is caused by nutritional deficiencies, they said. None of the American children were suffering from protein or vitamin lack.

The symptoms of the disease and the changes in the liver vary with the different forms of cirrhosis. No signs of the common "alcoholic" cirrhosis appeared in the children. Instead of becoming damaged and replaced by fibrous tissue over a long period of years as in the common adult form, the child's liver either degenerates rapidly or makes a quick recovery, they said.

The report in a recent issue of the *American Journal of Diseases of Children*, published by the American Medical Association, was made by Drs. John M. Craig, Sydney S. Gellis and David Yi-Yung Hsia of the departments of pathology and pediatrics at Harvard Medical School and the Children's Medical Center.

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Each ounce contains: Hyoscyamine oleate (equivalent to 0.028 mg. hyoscyamine alkaloid), 0.055 mg.; Alcohol, 1.4 cc.; Camphor, 0.16 gm.; Ether, 0.5 cc.; Chloroform, 0.19 cc.; Chloral hydrate, 0.13 gm.; Menthol, 0.17 gm.; in a suitable ointment base.

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You can choose the *right* dosage form to suit the patient's needs and comfort, and your convenience.

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Each capsule contains:

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Thiamine Mononitrate	2.5 mg.
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Niacinamide.....	25 mg.
Pyridoxine HCl.....	0.5 mg.
Calcium Pantothenate...	5 mg.
Vitamin B ₁₂	1 mcgm.
Folic Acid.....	0.375 mg.
Vitamin K (Menadione)	0.5 mg.

ACHROMYCIN SF Oral Suspension: each teaspoonful (5cc.) contains the same substances as one ACHROMYCIN SF Capsule in one-half the amount.

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Nail Polish Sealer Used for Fungal Infection

A Miami physician has outdone the proverbial female who fixes everything with a hairpin or a little nail polish.

Dr. Hollis F. Garrard has successfully used nail polish sealer in treating a fungal infection of the fingers and nails.

He said the sealer acts as an "artificial cuticle" and keeps water and foreign material from getting under the loose skin around the nail. The sealer is applied to the nail and nail fold in the morning and left on until bedtime when it is removed and another medication applied.

The sealer, Dr. Garrard said, is superior to rubber gloves or finger cots in protecting the infected nails because it is always present and is invisible.

Dr. Garrard, who has used the method on 59 patients with monilial paronychia, reported the technique in a recent issue of *Archives of Dermatology*, published by the American Medical Association.

New Artificial Respiration Method Described

(Continued from Page 26)

a rate of eight times a minute, he adds the word, "and," between the two phrases.

The expiratory phase always begins with the word, "out," and the inspiratory phase with the word, "in."

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MEDICAL SCHOOL AND HOSPITAL

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Betasymine therapy results in speedier progress with physiotherapy, better appetite, and improved mental outlook. For best results, Betasymine should be accompanied by dietotherapy and exercise, and should be administered daily until rehabilitation has been achieved.

In 52 of 59 cases of poliomyelitis Betasymine stepped up neuromuscular recovery

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(betaine-glycocyamine compound)

Daily Dosage: For children 6-12 years — 1 to 2 tablespoonfuls Emulsion (5 to 10 Tablets).

For patients over 12 years — up to 5 tablespoonfuls Emulsion (or up to 25 Tablets).

Supplied: Betasymine Emulsion (bottles of 16 fluid ounces) and Betasymine Tablets (bottles of 200).

1. Jones, A.C.: The Influence of Creatine Precursors and High Energy Phosphates on Convalescence from Poliomyelitis, submitted for publication.

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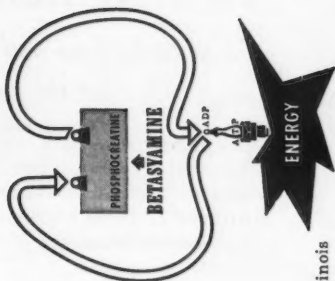
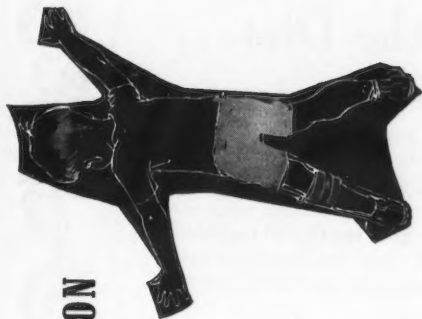
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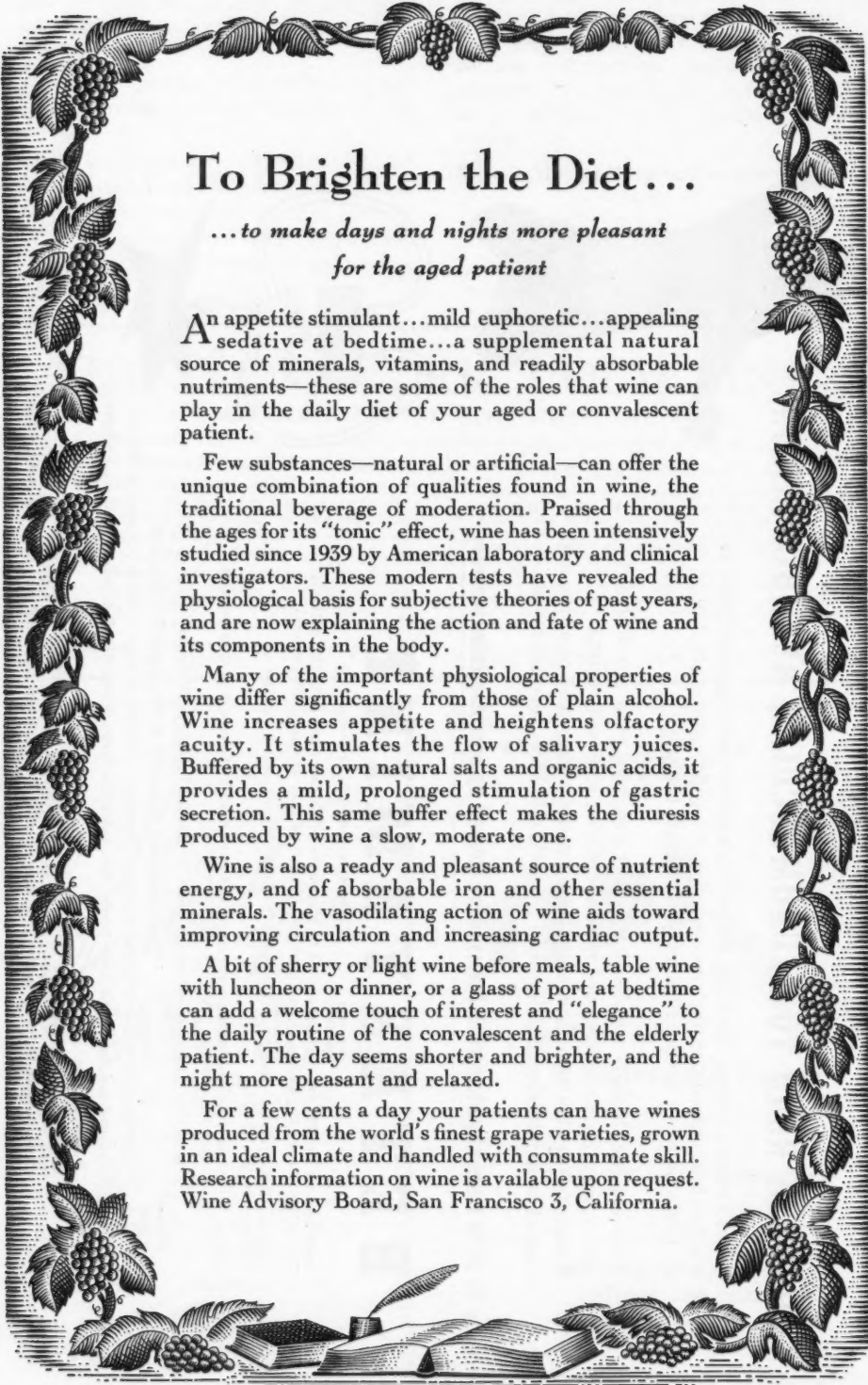
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Patent Pending

FORMULA: Betasymine Emulsion—each tablespoonful (15 cc.) contains: Betaine (hydrate), 5.0 gm. (equivalent to 4.33 gm. betaine anhydrous); Glycocyamine, 1.0 gm. Bottles of 16 fluid ounces. Betasymine Tablets—each tablet contains Betaine (anhydrous), 0.566 gm.; Glycocyamine, 0.2 gm. Bottles of 200 tablets.





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An appetite stimulant...mild euphoretic...appealing sedative at bedtime...a supplemental natural source of minerals, vitamins, and readily absorbable nutriments—these are some of the roles that wine can play in the daily diet of your aged or convalescent patient.

Few substances—natural or artificial—can offer the unique combination of qualities found in wine, the traditional beverage of moderation. Praised through the ages for its “tonic” effect, wine has been intensively studied since 1939 by American laboratory and clinical investigators. These modern tests have revealed the physiological basis for subjective theories of past years, and are now explaining the action and fate of wine and its components in the body.

Many of the important physiological properties of wine differ significantly from those of plain alcohol. Wine increases appetite and heightens olfactory acuity. It stimulates the flow of salivary juices. Buffered by its own natural salts and organic acids, it provides a mild, prolonged stimulation of gastric secretion. This same buffer effect makes the diuresis produced by wine a slow, moderate one.

Wine is also a ready and pleasant source of nutrient energy, and of absorbable iron and other essential minerals. The vasodilating action of wine aids toward improving circulation and increasing cardiac output.

A bit of sherry or light wine before meals, table wine with luncheon or dinner, or a glass of port at bedtime can add a welcome touch of interest and “elegance” to the daily routine of the convalescent and the elderly patient. The day seems shorter and brighter, and the night more pleasant and relaxed.

For a few cents a day your patients can have wines produced from the world's finest grape varieties, grown in an ideal climate and handled with consummate skill. Research information on wine is available upon request. Wine Advisory Board, San Francisco 3, California.

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All the hypotensive alkaloids of Rauwolfia—not merely
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DOSAGE: Merely two 2 mg. tablets at bed-
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LOS ANGELES

Polio Virus Test Used in Polio-Like Illness

The "tissue culture" method by which polio viruses are isolated now can be used to identify one of the unknown or "orphan viruses" found in patients with polio symptoms but with no apparent polio infection.

Two Seattle physicians recently stated that by using this method they found a "high percentage" of polio-diagnosed patients reacted negatively to polio tests, but did have infection with Coxsackie viruses. One of these viruses is believed to cause aseptic meningitis—which has the same symptoms as polio.

This means that it is now possible—and neces-

sary—to test for Coxsackie virus before designating nonpolio viruses as "orphans," which is commonly done.

They said the "most striking" feature of their study at King County Hospital, Seattle, was the high percentage (27.4) of patients with an initial diagnosis of polio from whom viruses other than polio were recovered.

The 14 patients (out of 51 diagnosed as having polio) had fever, headache, stiffness of the neck and back, and changes in the spinal fluid content. Their illness, finally diagnosed as aseptic meningitis, was

(Continued on Page 50)

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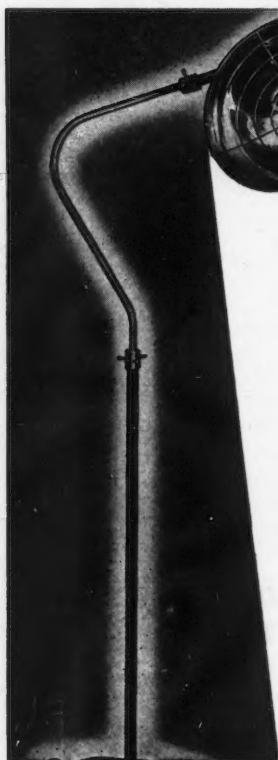
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Scored, yellow oral tablets. May be habit-forming. Average adult dose, 1 tablet q. 6 h.

1. Hyman, S., and Rosenblum, S. H.: Illinois M. J. 104:257, 1953.
2. Piper, C. E., and Nicklas, F. W.: Indust. Med. 23:510, 1954.

†U. S. Pat. 2,628,185

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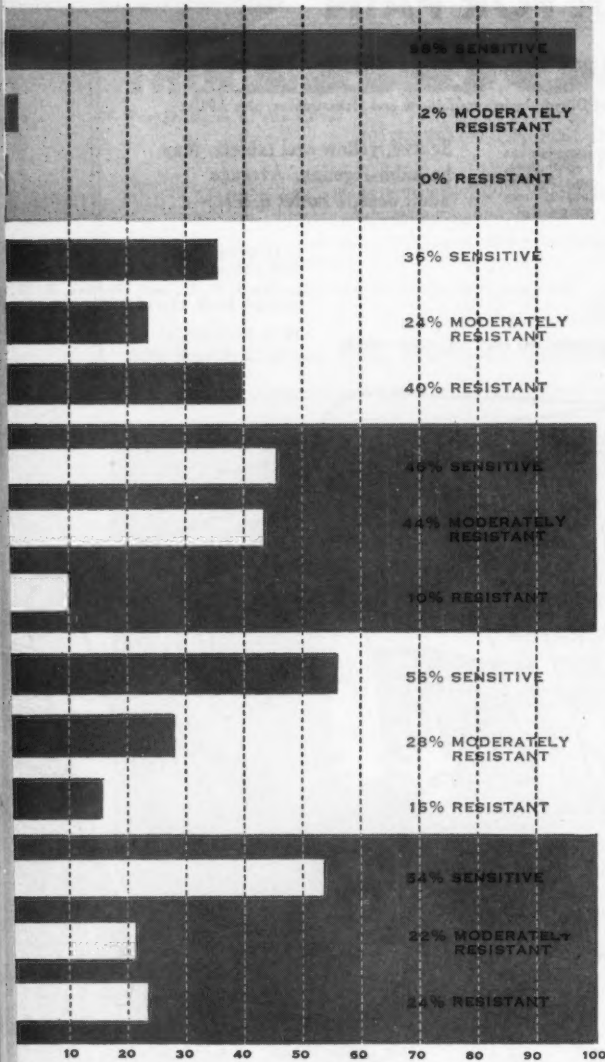


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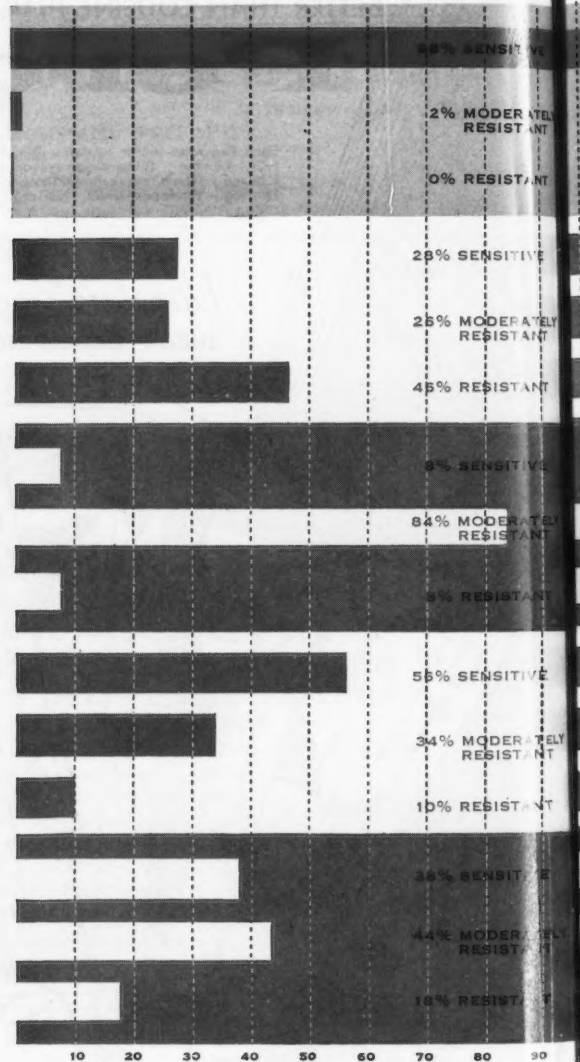
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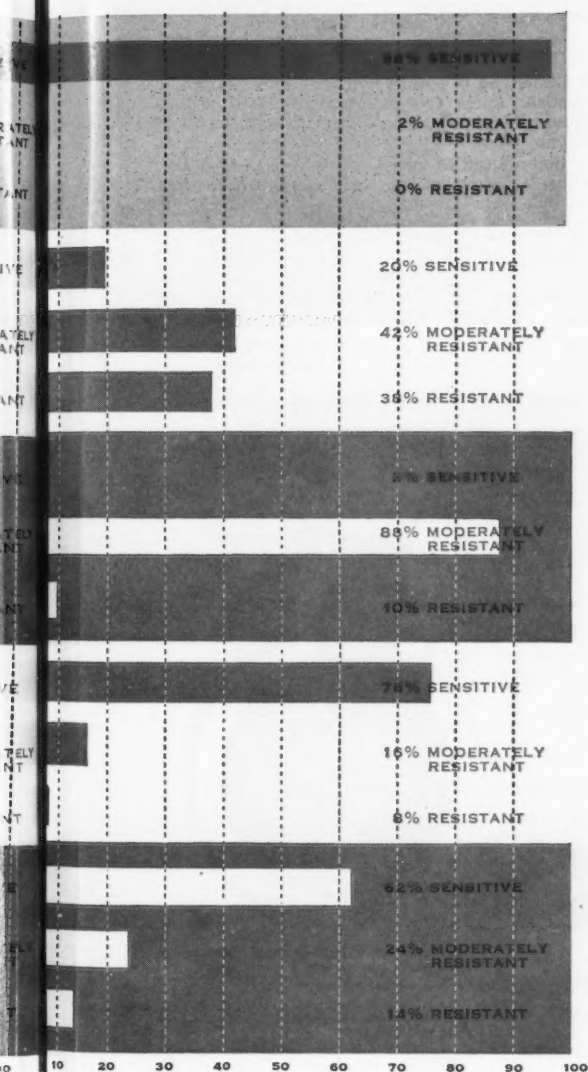
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CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

References: (1) Spink, W. W.: *Arch. Int. Med.* 94:167, 1954. (2) Finland, M.: *J.A.M.A.* 158:188, 1955. (3) Tebrock, H. E., & Young, W. N.: *New York J. Med.* 55:1159, 1955. (4) LeMaistre, C.: *M. Clin. North America* 39:899, 1955. (5) Kagan, B. M.: *J.M.A. Georgia* 44:210, 1955. (6) Branch, A.; Starkey, D. H.; Rodgers, K. C., & Power, E. E., in Welch, H., & Marti-Ibañez, F.: *Antibiotics Annual, 1954-1955*, New York, Medical Encyclopedia, Inc., 1955, p. 1125. (7) Kutscher, A. H.; Seguin, L.; Lewis, S.; Piro, J. D.; Zegarelli, E. V.; Rankow, R., & Segall, R.: *Antibiotics & Chemother.* 4:1023, 1954. (8) Weil, A. J., & Stempel, B.: *Antibiotic Med.* 1:319, 1955. (9) Jones, C. P.; Carter, B.; Thomas, W. L., & Creadick, R. N.: *Obst. & Gynec.* 5:365, 1955.

PARKE, DAVIS & COMPANY DETROIT, MICHIGAN

Polio Virus Test Used in Polio-Like Illness

(Continued from Page 42)

similar to that of nonparalytic patients from whom polio viruses were recovered.

Five of the 14 were definitely proved to have had no recent polio infection. While polio tests were inconclusive for the rest, other tests "indicated clearly" that they were infected with Coxsackie viruses, the physicians said.

All recovered within two months, except for one patient who also yielded a polio virus. He recovered within three months.

Drs. William M. M. Kirby and Charles A. Evans reported their study in a recent issue of the *Journal of the American Medical Association*.

Labeling Ruling Issued on Aspirin To Protect Children

To protect children from accidental poisoning from overdoses of aspirin and other salicylate drugs, Food and Drug Administration is calling on manufacturers to use conspicuous package warnings that these preparations should be kept out of the reach of children. The recommended statements are: "Warning—Keep Out of the Reach of Children," or "Warning—Keep This and All Medications Out of the Reach of Children." Instead of dosage instructions for children under three years of age, FDA recommends this statement on the label: "For Children Under 3 Years of Age, Consult Physician."

(Continued on Page 52)

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A patient accepted for treatment may remain under the supervision of his own physician if he so desires.

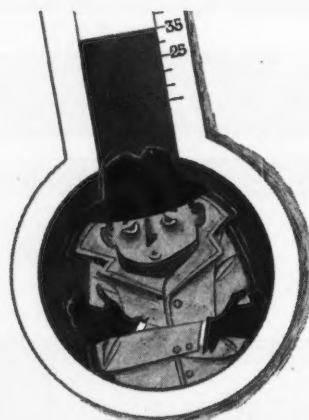
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Each capsule contains:

Pyrimamine maleate	5 mg.
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Phenacetin	2½ gr.
Caffeine	½ gr.

Dosage: During the first day of cold, 2 capsules initially, followed by 1 capsule at 4-hour intervals. Thereafter, 1 capsule four times daily for 2 days.

Supplied: Bottles of 100, 500 and 1,000 capsules.

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Labeling Ruling Issued on Aspirin To Protect Children

(Continued from Page 50)

The advisory ruling is an outgrowth of recommendations made earlier in the year by a medical advisory panel, called in by FDA to consider how to safeguard children from accidental overdoses of these preparations.

Manufacturers have the privilege of using the recommended statements or similar language of their own choice. They are given six months to make the changeover. In announcing the ruling, FDA Commissioner George P. Larrick emphasized that

manufacturers are cooperating wholeheartedly in the campaign to protect children from this type of accident, which results in about 100 deaths a year, mostly among children under five. The industry itself is about to undertake a national campaign to educate families to the dangers of accidental poisoning from various types of drugs, medicines and chemicals commonly kept in the home.

The new ruling does not apply to oil of wintergreen (which already carries a warning statement), effervescent salicylate preparations, or preparations of para-amino-salicylic acid and its salts, used only in the treatment of tuberculosis.

—A.M.A. Washington Letter



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Survey Public Attitudes on Drug Costs

Forty per cent of the adult population believe food costs are much too high; 45 per cent believe repair charges (TV, auto, etc.) are excessive; 27 per cent are equally critical of clothing costs, and only 26 per cent believe that the cost of medical care is much too high.

These figures are from a report of a national survey of opinions and attitudes toward medical care just released to the pharmaceutical industry by the Health Information Foundation of New York.

The study is one of several current socioeconomic surveys in health initiated by the foundation.

Findings of special interest include:

While medical costs in general come in for less criticism than other elements of the cost of living, within the category of medical costs the percentage believing costs "much too high" for doctors' fees is 16 per cent; hospital charges, 39 per cent; dentists' fees, 24 per cent; prescriptions at drug stores, 38 per cent.

Fifty-six per cent of the population cannot give the name of one company that, they believe, manufactures a new or "wonder drug."

When asked, "What are some of the things that make it easier to have good health today than it was 30 years ago?" 71 per cent cite improvements in medical knowledge and facilities and almost half the

population—47 per cent—specifically refers to new drugs, medicines, and vaccines now available.

Thirty-eight per cent of the population believe the cost of prescriptions is much too high, and 28 per cent believe that costs are somewhat higher than they should be. Of those giving reasons for high cost in this category, less than half attach blame to anyone. Twenty-six per cent of those who complain of prescription costs blame the druggists, 10 per cent mention physicians and 7 per cent pharmaceutical manufacturers. An additional 16 per cent blame some unspecified "they." Some individuals mention more than one person or group.

To the question, "What people or groups do you think have been mainly responsible for these new 'wonder' drugs?" only 11 per cent of the respondents give specific credit to the drug companies, pharmaceutical houses, the chemical industry; or drug manufacturers; an additional 9 per cent mention "laboratories"; 23 per cent credit doctors, the American Medical Association, or groups of doctors; 40 per cent credit scientists, science research, or persons such as medical researchers and chemists.

—A.M.A. Secretary's Letter

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Folic Acid USP... 0.1 mg.
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The Problem of Diverticulitis

Surgical Management

CLAUDE E. WELCH, M.D., Boston

THERAPEUTIC TRENDS often change very rapidly, but in few instances has the revolution been so dramatic as in the therapy of diverticulitis of the colon. This change has occurred practically entirely within the past ten to fifteen years, and, as a result, a knowledge of the benefits that surgery has to offer in the treatment of this disease has not been disseminated generally.

Perhaps it would be well to review the status of therapy of diverticulitis in the years immediately preceding World War II. At that time the disease was believed to be relatively uncommon, while most of the manifestations were regarded to be rather mild and easily handled by conservative therapy. In a few instances the changes were known to progress to a point where operation was necessary, for the same complications that shall be discussed later. In these instances colostomy was frequently done as the only surgical method of therapeusis. Most patients were left with a colostomy for a long time, although sometimes an attempt at closure of the colostomy was carried out—which was followed by reactivation of the disease in at least a third of the patients. Only rarely was actual excision of the involved segment of the colon carried out, and this was usually attended with a rather alarming mortality. Consequently, most patients with diverticulitis either suffered the

• The disease of diverticulitis now is encountered with increasing frequency due to the increasing average age of our population. Low mortality following resection and anastomosis and the excellent results after this procedure have broadened the indications for operation in this disease. From 1942 to 1955, 160 such operations for diverticulitis of the sigmoid colon were carried out at the Massachusetts General Hospital with a mortality of 3 per cent. The results, except in the few cases where too conservative a resection was carried out and a secondary operation was necessary to produce a cure, have been excellent.

discomforts of the disease, or had to submit to permanent colostomy for relief.

Documentation of the methods of treatment in the Massachusetts General Hospital in this period can be obtained from Smithwick's⁴ report. Three hundred and thirty-three cases of sigmoid diverticulitis had been observed at the Massachusetts General Hospital from 1926 to 1942. Of that number, 19.2 per cent were treated surgically; resection was carried out in only 33 cases, or 10 per cent of the total. The results of resection, however, were so far superior to those of any other method of therapy that a great deal of interest was fostered in this method.

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Guest speaker's address: Presented before the First General Meeting at the 84th Annual Session of the California Medical Association, San Francisco, May 1-4, 1955.

Meanwhile a similar impression was developing in other parts of the country. Pemberton, Black and Maino² reported a series of 301 resections from the Mayo Clinic in 1947, and other surgeons, Boyden¹ among them, began to urge an earlier surgical attack.

At present a number of factors contribute to the much more common use of curative operation in the treatment of this disease. In the first place the incidence of diverticulitis is increasing. Diverticulitis is a degenerative disease that becomes much more common with the increasing age of the patient. Practically speaking, neither diverticulosis nor diverticulitis of the sigmoid colon is seen in patients under 35 years of age, but there is an increased incidence of both with advancing age. At Massachusetts General, diverticula can be demonstrated by barium enema examination in approximately two-thirds of all patients 85 years of age, and roentgen evidence of diverticulitis can be seen in about a third of these aged persons with diverticula. As the average age of our general population increases, the number of cases of diverticulitis increases.

In the second place, newer surgical techniques have rendered operations on the colon much safer than they were 15 years ago. It is only reasonable, therefore, to expect that these benefits should be extended to more patients.

The indications for operation on these patients must be of primary concern. It is clear that operation need not be carried out for all patients who have had episodes of diverticulitis, else all hospitals would be filled with these patients. If there were some means by which the patients with what might be termed a virulent type of diverticulitis could be isolated, this would be the group for whom operation should be selected. It obviously would be of great value in this particular group to pick out the patients before the serious complications of the disease occurred and thereby be able to submit them to a one-stage resection and anastomosis, avoiding the long, cumbersome two and three-stage procedures with the unpleasant colostomy that accompanies them.

Unfortunately this selection of cases is extremely difficult and many patients even in these days have serious complications at the time they are first admitted to hospital. Usually the course of the disease is most erratic, with exacerbations often widely spaced over a period of many years, so that any positive statements that are made can be immediately controverted by individual case reports which tend to prove the exact opposite. However, in general, the following indications for operation seem to be logical:

1. Manifestations of the disease appearing in a patient less than 50 years of age. There is some evidence from the cases at Massachusetts General that when the disease begins relatively early in life it is more virulent than when it appears later, and very extensive changes in the colon are often seen in the comparatively young patients. They, of course, also have a relatively longer time to live than those in older age groups and therefore will be exposed to complications for a longer period.

2. Recurrent attacks of diverticulitis, despite a low roughage diet and careful attention to bowel habits, with daily use of mineral oil or Metamucil.[®] This indication must necessarily be elastic and it is hard to define it accurately. Short isolated attacks several years apart do not necessarily indicate operation, but, on the other hand, if a patient has daily difficulty with left lower quadrant tenderness, distress or flatulence, or has repeated episodes of diarrhea, resection should be considered very seriously.

3. The presence of one of the complications of diverticulitis. These include:

(a) *Perforation.* Free perforation into the peritoneal cavity constitutes a surgical emergency and demands operation. This fortunately is relatively rare. More frequent is the chronic type of perforation that often is manifest first by the passage of gas from the urinary tract or, as time goes on, by the expulsion of feces through the urethra. This type of fistula formation also requires operation. Midway in severity between these two is the commonest type of perforation that progresses to a localized abscess in the mesentery. If these abscesses are very small they can be relatively asymptomatic and may resolve spontaneously. As structural changes progress in the sigmoid colon, however, a small abscess may be enough to initiate an attack of complete intestinal obstruction from edema. If the perforation is accompanied by only mild left lower quadrant tenderness and a small palpable mass, it may be expected that it will resolve spontaneously in the absence of intestinal obstruction. This resolution, however, should be rapid with improvement manifested in the course of two or three days. Persistence of symptoms, particularly with any increase in the size of the mass, the presence of obstruction, or of severe deformity by barium enema, indicates operation.

(b) *Obstruction.* Complete intestinal obstruction is rare with diverticulitis. When it does occur it usually is progressive over a period of some weeks or months so that the bowel wall proximal to the obstruction tends to be thickened and edematous rather than greatly dilated. The more acute forms of obstruction usually follow local perforation with abscess formation. In any instance resection is indicated.

(c) *Bleeding.* The source of bleeding in patients with diverticulitis is extremely difficult to discover. It may be due to hemorrhoids associated with the lesion, to the diverticulitis itself, or to concomitant polyps or cancer. By careful inquiry it can be elicited that rectal bleeding is present in about 15 per cent of all patients with diverticulitis. It may be guessed that in perhaps half of this number the bleeding is from the diverticulitis itself. At any rate, unexplained rectal bleeding in the presence of diverticulitis is an indication for resection, since it may be the only indication that the lesion suspected of being diverticulitis is actually cancer. For this reason in any series of resections it will be noted that a rather high proportion of such patients had had bleeding—in this particular series, about 27 per cent. This figure is still surprisingly high but even then it must be recalled that bleeding from cancer of the sigmoid colon is approximately five times as frequent as bleeding from diverticulitis. Rarely, the bleeding from diverticulitis may be massive, necessitating emergency operation for relief.

4. Severe deformity of the sigmoid observed at radiological examination. This indicates major structural changes in the bowel which, although they may improve temporarily, always leave the patient in an unsatisfactory condition. Resection should be carried out before complete obstruction supervenes.

5. Urinary tract symptoms in the presence of diverticulitis. This is a serious sign, particularly in male patients, because it usually indicates a sigmoidovesical fistula is about to form.

6. Doubt as to whether cancer may be present. It may be noted that diverticulitis and cancer are very rarely associated. When they are, diverticulitis is found proximal to the cancer in nearly every case. The usual difficulty arises from the fact that the lesion believed to be diverticulitis actually is cancer.

Since the differential diagnosis usually is made on the basis of the radiological examination, Schatzki's³ methods of differentiating the two lesions may be mentioned. Schatzki noted that the diagnosis usually is easy but in some cases may be absolutely impossible. With diverticulitis the lesion tends to involve a relatively long segment of bowel with normal mucosa present throughout the segment and

with a cone-shaped deformity at either end. Diverticula are usually present, adjacent to the lesion. With cancer the involved area is usually short, with rather square ends and diverticula are usually absent. The last, however, is a very undependable sign, since so many normal people in advanced age groups do have diverticula. In some unusual circumstances, the bowel involved with diverticulitis should improve while that with cancer will progress. As a general rule, however, any lesion in which the differential diagnosis is difficult, preferably should be treated by resection.

There are also certain clinical signs that will help to differentiate cancer and diverticulitis. Daily rectal bleeding in which the blood is mixed with the feces, or is mixed with mucus is much more typical of cancer. Patients whose symptoms do not subside rapidly on medical therapy must also be considered suspects. In a few instances it has been possible to obtain positive cytological smears on rectal washings. They are much more likely to be satisfactory if the patient has had colostomy performed previously. Also, if the patient does not improve after colostomy, and rapid resolution of the pelvic mass does not occur, the chances are that the lesion is cancer.

It is apparent that several of the indications for operation may be present in the same patient. Considering only the most important indication in each case, the incidence of each in the present series is shown in Table 1. That they have been continuously broadened is shown by these comparative figures: From 1926 to 1942, resection was done in 10 per cent of all cases in which diverticulitis was diagnosed. During the next decade it was done in 20 per cent of such cases. In the past two years 33 per cent of such patients had resection.

Resection of the colon is much more logical when the disease is limited to one segment of the bowel. In about three-quarters of the cases diverticulitis and diverticulosis will be limited to the sigmoid colon, with very few diverticula found elsewhere. These are the most satisfactory to treat by operation since it can be expected that nearly all of the abnormal bowel can be removed. When the diverticula are numerous and scattered throughout the colon, a somewhat more conservative attitude toward operation seems justified. Usually, however, even in these cases, the major portion of the disease will be localized in the sigmoid colon so that any surgical attack usually is in this area. In the cases in the present series in which resection was performed the lesion was found in the sigmoid or intraperitoneal rectum in 94 per cent, in the right colon in 3 per cent of

TABLE 1.—Diverticulitis of the sigmoid colon, Massachusetts General Hospital, 1942-1955—Indications for resection.

	Per Cent of Total
Diverticulitis	30
Complications of diverticulitis:	
Perforation (free 5, abscess 25)	30
Fistula formation	13
Obstruction	19
Bleeding	8
Preoperative diagnosis was cancer in 18 per cent of total.	

the cases, and in the transverse or upper descending colon in the final 3 per cent.

When an operation is considered necessary for diverticulitis, the ultimate objective should be to rid the patient of the offending segment of sigmoid colon. This means, for example, that if laparotomy has to be carried out for acute obstruction, resection is planned as the final objective, and transverse colostomy should be carried out in the proper position to allow for a resection at a later date. If the patient is operated on for acute obstruction, a transverse colostomy similarly is indicated. It means that an operation such as drainage of an abscess due to diverticulitis, is not in itself a proper operation; it is not only dangerous in itself, but since it does not divert the fecal current, it makes no preparation for the final cure of the patient. Such operations as cecostomy are not advisable because they do not divert the fecal stream completely and cannot remain effective over the period of time that is often necessary between stages in a patient with diverticulitis.

Assuming then that a curative operation is the final goal, the most important problem is to determine whether it can be carried out as a one-stage procedure, or whether a more complicated series of operations must be done. There are a large number of considerations here that should be noted. Most important of all is the fact that the three-stage operation is considerably safer and is the one that should be employed by surgeons who do not have a great deal of experience in this field. Three-stage procedures are also wise when there has been a perforation of any magnitude. Some tiny perforations in the mesentery of the bowel can be excised perfectly well with the specimen and will add no hazard, but it is not wise to carry out intraperitoneal anastomosis in the presence of free pus whenever it is possible to avoid it. Since a tendency for recurrence of fistula has been observed in some cases after one-stage resections of sigmoidovesical fistulas, a staged operation is safer. If obstruction from diverticulitis is of long standing, the colon is difficult to work with and may not heal well; hence preliminary colostomy is wise.

On the other hand, when a well trained surgeon can obtain normal colon proximal to an area of diverticulitis and normal rectum distal to it, and when he is able to make a technically satisfactory anastomosis, there is no reason why this operation should not be carried out in one stage as it would be for cancer of the colon. The resection is more difficult than it is for cancer because the lumen of the bowel usually is much smaller and the bowel wall a little thicker or more edematous. For this reason, very meticulous anastomosis is necessary.

Preferably the inner layer is made of interrupted sutures of #3-0 chromic catgut, and the outer of interrupted Lembert sutures of cotton or silk. Extreme care must be taken to avoid constriction of the lumen because stenosis is very likely to occur if the lumen is contracted by a running suture.

At times the surgeon may plan to carry out a one-stage operation but find that the technical details of the anastomosis have not been as satisfactory as he might wish. For example, there might be a little more bleeding in the pelvis, the anastomosis might be a little too narrow, or there might be some hematoma formation along its margin. Whenever he is not completely pleased with it, he ought to carry out a simultaneous transverse colostomy as a protective measure. A second stage will then be necessary to close the colostomy. This two-stage operation ought to be required relatively infrequently.

If a three-stage operation is to be carried out, the surgeon must plan the colostomy with a great deal of care. If the segment of bowel to be resected is localized very sharply in the sigmoid and there is plenty of available bowel, there is no reason why the colostomy cannot be made in the left upper quadrant. The whole descending colon will probably have to be mobilized, however; and this is usually the case because the sigmoid will be found to be quite shortened from the disease, and it is safer to place the colostomy in the right upper quadrant, allowing more mobility for mobilization of the splenic flexure. Colostomy in the right upper quadrant has the great disadvantage that any inflammation of the biliary tree that might occur while the colostomy is still functioning is very difficult to handle. Since gallstones are somewhat more common in patients with diverticulitis than they are in the normal population, this problem must be considered carefully when colostomy is done. The colostomy itself should not be of the simple loop type, but the ends should be completely divided in order to secure complete diversion of the stream. It is done through a short incision and no attempt is made to explore the sigmoid colon at the time. The sigmoid resection then is planned as a second stage of the operation. This normally is done about three months after the transverse colostomy is established. If, however, cancer is considered to be a possibility, the operation should be done much sooner and can be carried out, of course, as soon as a week after colostomy. The beneficial effects of the transverse colostomy are relatively slow to appear, and, in many instances, the sigmoid operation will still be technically quite difficult three months later. There seems to be little point in waiting beyond that period because it is unlikely that any further resolution will take place thereafter. After the sigmoid resection has been completed, the patient is generally sent

home for a short period and then the colostomy is finally closed about a month after the date of the resection. Prior to closure integrity of the bowel is always established by the use of saline solution irrigations, and if there is any question about the width of the anastomosis a barium enema should be given to delineate the left colon. The transverse colostomy then finally is closed by means of open end-to-end anastomosis, the bowel being returned to the peritoneal cavity.

A general summary of the methods of therapy employed at the Massachusetts General Hospital during the period from 1942 to 1955 is shown in Table 2. Medical therapy alone was carried out in 625 cases or 78 per cent of the entire group. Minor operations were done in 25. Resection of the sigmoid colon was carried out in 160 cases, or 20 per cent of the total group. The overall mortality was 2 per cent—approximately 1 per cent in patients with conservative therapy and 3 per cent for those who had resection.

This relatively low mortality rate for resection and anastomosis is one of the outstanding features of the disease at present. It is matched, however, by the relief the patients receive. Recurrence of complaints is very uncommon after adequate resection. If too short a segment of bowel is removed, it is not uncommon for recurrent disease to be manifest either by obstruction or perforation with the formation of a secondary fistula. On the average, removal of about 20 cm. has been found to be necessary to prevent this difficulty. Patients with poor immediate results were relieved entirely when a secondary, more extensive operation was performed.

TABLE 2.—Treatment of diverticulitis of the sigmoid colon, Massachusetts General Hospital, 1942-1955.

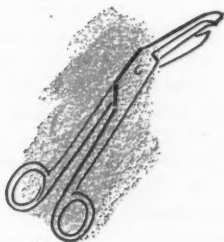
	Total Cases	Died	Per Cent
No operation	625	6	1
Laparotomy only	12	1	8
Colostomy or cecostomy only.....	13	4	31
Resection, in 1, 2, or 3 stages.....	160	5	3
Total.....	810	16	2

Most of the patients had isolated diverticula remaining after resection of the sigmoid colon, and in many cases x-ray studies made years after operation showed that often additional diverticula had developed. It is quite remarkable that these isolated diverticula very rarely cause any symptoms and, in the few cases where there was difficulty, attention to proper bowel hygiene was sufficient to provide complete relief.

266 Beacon Street, Boston 16.

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The Practicing Physician and Mental Health

WALTER RAPAPORT M.D., Sacramento

MENTAL AND EMOTIONAL illnesses and handicaps are the number one health problem of the United States. Over half of all hospital beds are occupied by neuropsychiatric casualties, not including patients who have other disabilities with superimposed neuropsychiatric coloring.

About nine million people in the United States have some form of mental illness—one in every 17 of our population. One of every ten persons will need psychiatric care at some time during his lifetime, and one of every 18 will spend some part of his life in a hospital for the mentally ill. Costs for care and treatment, loss of earnings and loss in federal income tax revenue, exceed two and a half billion dollars annually.

Therefore, it must be apparent that the mental health problem is one that demands the careful interest of the entire population. The cooperation of any segment which can be of assistance in the solution of the problem is obviously vital. Certainly no single group fits more naturally into cooperation of that kind than the practicing physician. In almost every instance the potential mental hospital patient sees his own physician first before contacting a psychiatrist or seeking relief in a mental hospital. Persons of this order who seek advice from a family physician or from practitioners of various neuropsychiatric specialties may be of various classifications—mental and emotional distress, mental retardation, epilepsy and allied disorders, alcoholism and drug addiction.

As the population increases the number of potential neuropsychiatric problems also will increase. In California hospitals for the mentally retarded there are now approximately 60 patients under treatment per 100,000 state population of all ages. If the number on waiting lists were included (approximately 2,300), the rate would be 78.3 per 100,000. Actually, there are several thousand unlisted additional mentally retarded persons in the state and all of them require or could benefit from sound constructive medical advice. Both private and public hospitals in this state are doing a magnificent job in educating and training persons of this type. It would behoove all physicians to orient themselves in what is being done in the field of mental retardation. While the present hospital population of such

• Neuropsychiatric disabilities are the number one problem in medicine. More specialists are needed in the field of neuropsychiatry. Better psychiatric orientation of nonpsychiatric physicians is needed and there must be infinitely more research into psychiatric problems. We need more adequately equipped and staffed hospitals, both private and public, to care for the problem, and an alerted public as well as a sympathetic, understanding medical profession.

persons, plus the known waiting lists of the mentally retarded, now numbers about 9,500, it is estimated that by 1960 this figure will have grown to 14,376, and by 1965 to 16,226.

In California admissions to hospitals for the mentally ill are currently around 18,000 per year—a rate of 133 per 100,000 civilian population—and it is anticipated that the rate will be 144 per 100,000 population by 1960, and 156 per 100,000 by 1965. These expected increases are consistent with the long established upward trend. Of course, it is hoped that when and if the Department of Mental Hygiene is able to inaugurate an intensive, expanded research program, it will be possible to favorably influence this established trend.

Since World War II the population in the mental hospitals of California has remained at a ratio of around 300 per 100,000 of general population. The stability of the prevalence rate was maintained despite increases in admissions rates, largely because of the improved treatment program in the hospitals. It is felt that with greater interest from the other medical specialists and general practitioners the rate of admissions could be lowered considerably.

The general public is becoming more aware of the need for early recognition and treatment of mental and emotional illnesses and handicaps and the medical profession should be ready and willing to meet this situation as it has so admirably and competently done in other branches of medicine. Physicians whose work is in the public hospitals are strongly convinced that every physician—be he general practitioner or specialist—should have a basic knowledge of psychiatry, a capacity to recognize early manifestations of mental and emotional illness and handicaps. It is strongly felt that with this fundamental orientation, many of the potential cases

Presented before the Section on Psychiatry and Neurology at the 84th Annual Session of the California Medical Association, San Francisco, May 1-4, 1955.

can be cured by those same general practitioners and specialists, thus avoiding the necessity of ever having to go to a psychiatrist or psychiatric hospital. Also, it is felt that every general hospital should have a psychiatric unit, adequately equipped and staffed to give intensive treatment to persons with early psychiatric problems.

Physicians in private practice confront psychiatric problems almost daily. In the case of the first pregnancy, or even later ones, the emotional and anxiety stresses are frequently of primary consideration. In rheumatic fever, prolonged cardiac disease, hip and spinal diseases and injuries, the neuropsychiatric components may become major factors unless adequately understood and resolved at an early stage of the medical or surgical condition.

What is the program of the California Department of Mental Hygiene in its mission to solve the mental health problem of the state? The approach has many facets. First, ample and adequate housing must be provided for the mentally and emotionally handicapped. Ways must be found to enlist needed personnel. One of the most vital deficiencies in the treatment of mentally ill persons is lack of personnel, not only physicians but all the other necessary disciplines such as psychologists, psychiatric social workers, rehabilitation technicians, nurses and psychiatric technicians.

As to the availability of psychiatrists, there are something over 7,500 in the United States, with over 800 in California. It is estimated that a minimum of 20,000 psychiatrists is needed to meet the problem on the lowest acceptable level. Therefore, more physicians must be trained in the specialty of neuropsychiatry. This is in addition to the absolute necessity of giving adequate orientation in psychiatric areas to all the other practitioners of medicine.

More must be learned about the causes of mental and emotional illnesses and handicaps. This requires intensification of research activities. Psychiatric workers must go into communities and recognize and attempt to resolve the stresses and strains that provoke these devastating neuropsychiatric disabilities. This requires implementation of community service resources on a public level if necessary, at least in the early pump-priming days.

It is recognized that neuropsychiatric disorders are found in all walks of life, in all professions, trades and arts, at all ages, in all colors and creeds, and at all levels of economic and social life.

In the Department of Mental Hygiene, it has been found that by intensifying the care and treatment of patients, a substantial number of those theretofore considered hopeless were improved, some were cured and the average period of necessary hospitalization was shortened.

The Department of Mental Hygiene has an intensive education and teaching program, not only in its hospitals and clinics, but to a greater extent in the two neuropsychiatric institutes associated with the University of California medical schools. Here the Department has trained not only its own personnel, but also large numbers of physicians, nurses, psychologists, etc., who have gone into private practice.

It is strongly felt that to the greatest extent possible all medical and surgical services should be attained on a private practice basis, but until there is a much clearer status of knowledge, a much greater expansion in private facilities, and a sufficiently high economic status to permit all patients to be dealt with by private resources, the government will have to implement the private facilities with public resources.

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Severe Euthyroid Cardiac Disease

Technique for Treatment with Radioiodine

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MORE THAN THREE HUNDRED euthyroid seriously ill patients with heart disease have been treated with radioactive iodine (I^{131}) since February, 1950, in the Radiation Therapy Department of the Cedars of Lebanon Hospital in Los Angeles.

The rationale of this treatment is to produce a state of beneficial relative hypothyroidism by lowering the total metabolism of the body, so that the heart has less work to do. This is a symptomatic treatment for patients incapacitated by heart disease who have a hopeless prognosis and who have a limited life expectancy. The organic cardiac disease is not cured by radioiodine. All other types of cardiac treatment are continued as indicated.

Radioiodine treatment for euthyroid cardiac cripples was pioneered by Blumgart³ and associates in 1947. They reported their early results in 1952. Wolferth⁹ gave account of 28 patients treated with radioiodine for angina pectoris in 1951. Jaffe, Rosenfeld, Pobirs and Stuppy^{6,7} reported their early results in November, 1951, and in 1952 reported upon treatment of a group of 100 patients. Chapman⁵ published a report in 1952 and Serber⁸ in 1953. Blumgart,⁴ in his chairman's address to the Section on Internal Medicine of the American Medical Association in June, 1954, summarized the results of treatment in 1,070 cases at 47 different clinics in the United States. All published reports by these investigators have shown favorable results following the radioiodine treatment for angina pectoris and, with the exception of Serber's all reports were also favorable for the treatment of severe congestive failure.

MULTIPLE SMALL DOSE RADIOIODINE TECHNIQUE

When Blumgart first described the radioiodine treatment for euthyroid patients severely ill with heart disease, he reported that he was giving large doses of radioiodine—as high as 42 millicuries per

• *It is possible to safely lower the basal metabolism of patients suffering from severe cardiac disease by administering multiple small doses of radioiodine in order to achieve symptomatic relief.*

From the present study, multiple small doses of I^{131} appeared to be as effective as single or multiple large doses of this material and complications such as thyroiditis, temporary thyrotoxicosis and bone marrow depression were almost always avoided. No damage to the parathyroid glands or the recurrent laryngeal nerve was observed. No radiation sickness developed after therapy.

A scintigram of the thyroid gland was useful in determining the size, shape and function of the thyroid gland before and during radioiodine treatment and helped to determine the need for additional treatment. In order to prevent the distressing symptoms of the myxedema state, desiccated thyroid was administered when necessary.

In the series of 278 euthyroid patients with severe cardiac disease who were treated with radioactive iodine, results were excellent in 35 per cent of cases and good in 44 per cent. In 21 per cent there was no improvement.

dose. He also reported thyroiditis as an undesirable side effect of the large-dose treatment. The patients complained of pain in the anterior neck and some patients also showed a temporary state of hyperthyroidism, probably the result of rapid destruction of thyroid tissue and the liberation of abnormal amounts of thyroxin into the blood stream. This temporary hyperthyroidism could prove fatal to a patient with an already severely damaged heart and very little cardiac reserve.

In the present series the author wished to give the smallest dose of radioiodine that would produce the desired clinical effect. Since Blumgart at the time of his original report did not know the minimal effective dose, it was decided to follow a plan of treatment in the present series with multiple small doses of radioiodine in an attempt to accomplish

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the same clinical results without producing the undesirable side effects.

Preliminary Radioiodine Studies

Each patient was completely studied medically by his physician before he was referred for radioiodine treatment. Then, before treatment was begun, an oral tracer dose of five microcuries of I^{131} was administered to the patient in the radiation therapy department and the 24-hour uptake of the thyroid gland was measured. A second dose of 500 microcuries of radioiodine was given orally after the uptake study was completed, and a "thyrogram" (scintigram¹ of the thyroid gland) was made the next day. This gave a diagram of the approximate size, shape and degree of the uptake of the entire gland. In some cases there was a single hyperactive nodule in one lobe; in some an entire lobe was overactive and there was physiological depression of function of the other lobe. (It is interesting to note that the "thyrogram" will show these abnormal findings even though the total 24-hour uptake may be within normal limits.) Radioiodine (I^{131}) averaging six millicuries per dose, was given orally each week until the patient had had a total of 30 millicuries. This was called the "first course" of treatment.

(Before the thyrogram technique was available it was necessary to rely on clinical and uptake studies and other laboratory data for the determination of the effect of the first course of radioiodine. This necessitated waiting two to three months before the post-treatment thyroid uptake test could be done, since there was too much residual radiation activity in the gland to allow doing an uptake study before the end of the two-month interval. Now it is possible to check the size and function of the gland one month after the first course of treatment.) If the patient was not improved after the first course and the thyrogram indicated that the thyroid gland was still functioning normally, a second course of five weekly oral doses of 6 mc. of I^{131} was carried out. A third thyrogram then was made and the patient's progress evaluated. (This now is done one month after the second course.) If necessary, a third course of I^{131} was prescribed, unless the patient already had signs of hypothyroidism.

The Size of the Dose

The size of the dose of radioiodine used varies from clinic to clinic. The author prefers to give 6 mc. oral doses of I^{131} at weekly intervals until the patient has received a total of 30 mc. Other clinics have given as much as 42 mc. in a single dose. The small dose technique is used to avoid the danger of suddenly releasing large amounts of thyroxin from the destroyed gland into the blood stream. This

might produce a temporary increase in metabolism which in a patient with severe cardiac disease could be detrimental, even fatal. For the more seriously ill and hospitalized patients, doses of 1 to 2 mc. of radioiodine were given daily or every other day, in order to avoid rapid destruction of the thyroid gland with serious additional strain on the heart. Another undesirable side effect of larger doses of I^{131} is radiation thyroiditis, with an increased metabolic rate. In the patients in the present series treated according to this plan of dosage, the incidence of thyroiditis was low and there was little evidence of temporary thyrotoxicosis subsequent to I^{131} therapy. Bone marrow depression is another possible hazard of massive therapeutic doses of I^{131} , but with smaller doses there appeared to be no such effect.

Apparently the radiobiological time factor in euthyroid cardiac patients treated with I^{131} is independent of the size of the single dose or total dose.² Symptomatic relief occurred in a comparable interval after a single dose of 25 mc. or five weekly doses of 6 mc. The same percentage of excellent and good results was obtained with multiple small doses of I^{131} as with the single or multiple large doses totaling 100 mc. reported by other investigators. Therefore, use of the multiple small dose technique for treating selected euthyroid patients incapacitated with cardiac disease was continued. It was noted that about 40 per cent of the patients did well with one course of 30 mc. of radioiodine treatment, 50 per cent required two courses of 30 mc. each, and 10 per cent required three courses of 30 mc. each.

Safeguards

Safeguards against radiation are necessary when any radioactive material is used therapeutically. Single doses as large as 20 to 42 mc. make the patient a focus of considerable beta and gamma ray activity, and safe treatment usually necessitates hospitalization of the patients in order that excreta may be disposed of by trained personnel. Smaller doses do not entail this problem, since I^{131} has a half-life of eight days, and therefore most patients may be treated as out-patients.

Radioiodine should be used only in a laboratory completely equipped for handling radioisotopes and having measurement instruments for calibration of the dosage.

USE OF THYROID EXTRACT AND DEGREE OF HYPOTHYROIDISM DESIRABLE

Following radioiodine treatment it is important to follow the patients carefully in order to detect the earliest symptoms of hypothyroidism. The author has prescribed thyroid extract where necessary to avoid the severe symptoms of myxedema.

This should be done even before laboratory tests have definitely indicated myxedema levels. If frank myxedema is permitted to develop, the patient may have so many complaints referable to the myxedema state that the relief of the symptoms of cardiac disease may seem less than a boon to him.

It is the opinion of the author, and is the consensus of most investigators, that no greater degree of hypothyroidism should be permitted than adequate clinical relief of cardiac symptoms requires. Wolferth⁹ and Serber⁸ have reported upon use of conservative radioiodine dosage. Serber has controlled myxedema when it developed by giving 15 to 30 mg. of thyroid extract and noted no interference with the beneficial effects of radioiodine therapy. Chapman⁵ said that myxedema should not be permitted to develop and that patients should be kept at the basal metabolic rate of -20 to -25 per cent, that plasma-bound iodine should be kept at levels of 2 to 3 gamma per cent, and that radioiodine uptake should be maintained at 10 to 20 per cent in 48 hours. Blumgart³ and associates, on the other hand, in their early reports said they had permitted pronounced hypothyroidism, and in some instances complete myxedema, to develop in order to be sure that all thyroid tissue was affected before they administered 6 to 12 mg. of desiccated thyroid daily. They adjusted the dosage of desiccated thyroid to maintain the lowest metabolic level associated with the maximum relief of cardiac disease and the minimum discomfort from myxedema. They found in some cases that treating with sufficient thyroid extract to obviate symptoms of myxedema resulted in very little cardiac improvement over the pretreatment status. They then stated that in most of the patients they administered 6 to 30 mg. of thyroid extract to maintain basal metabolic levels of -20 to -25 per cent. In the present series when patients showed symptoms of hypothyroidism, doses of 12.5 to 30 mg. of thyroid extract daily were administered. Great care was taken to avoid development of the disagreeable clinical picture of severe hypothyroidism or myxedema. In some patients thyroid tissue eventually regenerates and further radioiodine treatment is necessary. This phenomenon was confirmed by follow-up studies of I^{131} uptake and thyrograms made at three-month intervals.

EVALUATION OF RESULTS

The many and diverse clinical problems present in patients with severe cardiac disease affect the evaluation of beneficial results obtained from radioiodine treatment. A result may be short of complete symptomatic relief yet be considered excellent or worth while. A patient with angina pectoris decubitus who is relieved of the need to take nitroglycerin

repeatedly throughout the day and night receives real help, even though walking without pain is still impossible. A patient who may be comfortable at rest but who cannot work because of repeated attacks of angina pectoris, is greatly benefited if he is improved sufficiently to return to work. A patient with congestive failure and ascites gains much advantage if radioiodine treatment ends the necessity of repeated paracentesis and so well controls the condition that sodium restriction or the use of mercurial diuretics is sufficient.

When it is known, in individual cases, what relief has been obtained from other forms of medical treatment, and with the clinical problems of each patient known and recorded, a more accurate evaluation of the effect of radioiodine treatment is possible. The improvement in comfort, ability to care for self or to work, reduction in required drugs and decrease in dangerous attacks of acute pulmonary edema must be weighed against the disadvantages of relative hypothyroidism.

Definitions

For purposes of evaluation in the present series, Blumgart's classification was used in order to avoid confusion of terms.

1. *Excellent (pronounced improvement)*: Greatly improved over pretreatment status, with either no recurrence of symptoms or a pronounced decrease in the frequency and severity of angina pectoris or congestive failure, despite activity greater than that possible before treatment.

2. *Good or worthwhile*: Definite decrease in frequency and severity of attacks on same activity as before treatment, or ability to do considerably more with no increase in angina pectoris or congestive failure.

3. *No worthwhile improvement*.

The patients in the series were treated with radioiodine only when other forms of medical treatment did not control their symptoms. Included were patients with severe angina pectoris, with congestive failure and a combination of both.

Results

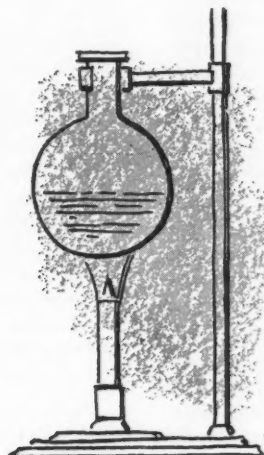
In the series of 278 euthyroid patients with severe cardiac disease, the following results were obtained: Excellent in 35 per cent, good in 44 per cent, and no improvement in 21 per cent. Of 127 patients with angina pectoris, 34 per cent had excellent and 46 per cent good results. Only 20 per cent showed no improvement. Eighty-six patients had congestive failure, and results in that group were: Excellent, 37 per cent; good, 40 per cent; no improvement, 23 per cent. For a group of 65 patients with both

angina pectoris and congestive failure results were excellent in 34 per cent of cases and good in 45 per cent. In 21 per cent there was no improvement.

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Hydrocortisone Therapy of Periarticular Pain

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A COMMON COMPLAINT presented by patients is that of periarticular pain, and perhaps in some cases the physician is in greater distress than the patient when he hears this symptom cited.

Some physicians dislike treating patients with that condition, for in the past results have been satisfactory to no one. The complaints are often vague and perhaps accompanied by pain of referred type, thus often directing the attention of the examining physician away from the actual site of disease. The pathological changes of the underlying disease process are often clouded in the minds of physicians.

A patient may complain of shoulder pain which radiates down the arm and perhaps into the supraspinatus area. There may be limitation of motion with increase of pain on motion. The examining physician may thereupon recall the many arguments that have continued over the years as to the causation of shoulder pain. Back as far as 1896 Duplay said that all shoulder conditions of this kind were due to subacromial bursitis, and he labeled the condition scapulo-humeral periarthrititis. This term adhered like a leech despite the work of many investigators who, since that time, have demonstrated such clinical conditions as calcareous tendinitis, rupture of the supraspinatus tendon, tenosynovitis of the long head of the biceps muscle and adhesive tenosynovitis, as some of the causes of shoulder pain.

Another common medical label attached to the painful shoulder is *subdeltoid* or *subacromial* bursitis, a term which conveys a false pathological concept of one of the commonest causes of shoulder pain—namely, calcareous tendinitis of the musculotendinous cuff. In such cases the bursa is rarely, if ever, primarily involved; instead, bursal reactions are usually secondary to an irritative process originating in tissues adjacent to the bursa. Since calcification may occur in any portion of the musculotendinous cuff, designating this condition by the currently widely used term *calcification of the supraspinatus tendon* often leads to inaccurate pathological description. According to DePalma, calcareous lesions in the musculotendinous cuff are usually, but not always, in the supraspinatus region of the cuff.

What relation does this disease bear to occupation? Numerous investigators have said that sudden

• *Certain distinct disease entities producing pain about the joints were treated by injection of hydrocortisone solution at the points of greatest tenderness. Results were superior to those obtained by methods available prior to the advent of hydrocortisone.*

trauma may cause injury to tendon fibers, that hemorrhage into the area may occur and that, in the course of repair, calcium may be laid down. A period of nine to 12 months will usually elapse, it is reported, between the date of injury and the time calcium may be first noted by x-ray studies. Frequently such calcified deposits within the musculotendinous cuff are noted in routine studies in persons who have no complaint referable to the area. However, an incident in the occupation of such a person—heavy lifting perhaps, or a fall or a direct blow—may be followed by shoulder pain, which may result from secondary involvement of the previously abnormal tendon and cuff tissue. A patient so affected cares little about the physician's knowledge of the anatomy and pathologic changes of the musculocutaneous cuff. He wishes only to be relieved of suffering, and a physician who cannot do so is, in his opinion, a very poor one.

Once a diagnosis of calcareous tendinitis within the musculotendinous cuff is made and pain in the shoulder is attributed to it, what can be done to relieve the pain? For many years x-ray treatment was considered the method of choice. In acute cases x-ray often brought about a very satisfactory result, although the relief from pain was sometimes slow and treatment was prolonged. In the more chronic forms of this disease, results were certainly not uniformly good.

In recent years hydrocortisone has come into use for treatment of this disease. Over the past several years the author has administered this hormonal preparation in a number of conditions, some of which will be discussed specifically and others in general.

Hydrocortisone was used in the treatment of 48 patients with tendinitis of the musculocutaneous cuff. The oldest was 89 years of age and the youngest 17. Thirty-one had involvement of the right shoulder, ten of the left shoulder and seven of both shoulders. Treatment was carried out as an office procedure

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with the patient sitting and with the involved extremity hanging to the side. Generally the point of acute tenderness was found over the lateral aspect of the head of the humerus with the extremity in a position of external rotation. Following surgical preparation of the shoulder, procaine solution was infiltrated and 50 to 75 mg. of hydrocortisone then was injected at multiple sites within the cuff in order to put the preparation into and around the area of tenderness. Usually within a few minutes the patient is free of all pain and there is no restriction of motion. Pain, sometimes more severe than before, returns in about two hours in most cases and then usually abates gradually over the following 36 to 48 hours. The patient then is completely free of pain and, if the results are good, will remain so. Good results were obtained in 36 of the 48 patients, fair results in nine and poor results in three. In 12 cases, a second injection of hydrocortisone was administered and in a few a third injection was carried out before the patient became asymptomatic. In classifying results the term *good* was applied when there was complete relief of pain following injection, and then continuing freedom from pain; *fair* denoted relief from pain for periods of three to six months but need for subsequent injections; and *poor* meant little if any relief from pain and continuing pain even after repeated injections. An incidental observation was that often the male patients complained of severe pain with the injection. Many became pale and perspired profusely and some became dizzy. Very few of the women complained of pain upon injection and none of them had any of the other symptoms that were noted in men.

Twenty-one of the patients treated with hydrocortisone injection had epicondylitis. The oldest in this group was 59 years of age and the youngest 25 years. Sixteen were men and five women. In 14 cases the disease involved the right elbow, in six the left elbow, and in one both elbows. The lateral epicondyle was the site of disease in 17 cases and the medial epicondyle in three cases. In light of the exposed position of the lateral and the protected position of the medial epicondyle, the relative incidence suggests a relationship between this condition and trauma. Treatment consisted of infiltration with procaine followed by infiltration of the entire area of the epicondyle and a portion of the common flexor or extensor tendon attachment to the epicondyle with 25 to 50 mg. of hydrocortisone. In 12 of the 21 cases results were good, in eight fair and in one poor. In 12 cases one or more reinjections were required.

Six cases of DeQuervain's disease were treated by hydrocortisone injection. In each case the result

of Finkelstein's test was positive.* After the positive result was obtained, hydrocortisone was injected into the common tendon sheath. Since in DeQuervain's disease it is impossible to inject more than a small amount of fluid, use of a solution containing 50 mg. of cortisone per cc., rather than the usual 25 mg. per cc., is advisable.

The age range in the group with DeQuervain's disease was from 24 years to 60 years. There were three men and three women. In three cases the right arm was involved and in three the left. In five cases good results were obtained and in one only fair results, one reinjection being required. One of the patients was a woman who, at the request of an insurance carrier, was examined for consideration of permanent disability rating. She had had various kinds of treatment during the preceding year, and during that time she had a rating of temporary disability. Within 48 hours after hydrocortisone injection she was completely free of pain and there was no recurrence in a period of nine months of observation after injection. The patient returned to work within a week following injection and remained free of any disability.

A common condition in industrial practice is olecranon bursitis owing to trauma to the posterior portion of an elbow. Such cases were treated by aspiration of the hemorrhagic fluid from within the olecranon bursa and injection of 50 mg. of hydrocortisone into the bursa. Recovery was more rapid than is usual in this type of injury, pain was less, and thickening of the bursal sac did not occur. In two cases there were fibrous projections arising from the base of the bursa, probably due to previous attacks of olecranon bursitis. In both of these cases pressure on the elbow still was painful after treatment and surgical excision was necessary later.

A clinical entity that has become either more common or more often mentioned in the past several years is whiplash injury, a syndrome usually caused by automobile collisions. Characteristic is generalized cervical pain which slowly subsides, often leaving residual pain in the suboccipital area, usually bilateral. This pain may be intermittent, but when present is often acute. It may be accompanied by pain that radiates over each side of the head and that is often described by the patient as headache.

The author treated residual areas of suboccipital pain in such cases by injection with hydrocortisone at the point of acute tenderness. This point is found best by having the patient lie face down.

*The patient's thumb is placed in the palm of his hand. The examiner grasps the patient's fingers and forces the wrist into ulnar deviation. This produces severe pain at the radial styloid on the involved side. Then a small amount of procaine solution is injected into the sheath, common to the abductor pollicis longus and extensor pollicis brevis in the groove on the styloid process of the radius. Again the patient's thumb is placed in the palm of his hand, the examiner grasping the patient's fingers and forcing the wrist into ulnar deviation. If no pain is felt by the patient following injection, the result is positive.

ward on the examining table with the neck in flexion. Pressure with a finger over each suboccipital area approximately one inch to the side of the midline will elicit a point described as acutely tender by the patient. This point corresponds anatomically with the location of the greater occipital nerve as it lies anterior to the semispinalis capitis muscle. After local infiltration with procaine, 1 to 1.5 cc. of hydrocortisone (25 mg. per cc.) was injected. Usually pain abated for approximately two hours, returned for about two days, then stopped and did not recur. Results were uniformly good although reinjection was required in a few instances.

In the general series of cases in which hydrocortisone injections were used there were many which

were difficult to classify—such conditions as tendinitis of various digits, biceps tendinitis, bursitis around the various joints, calcification adjacent to the hip joints, strain of the collateral ligaments of the knee joint and acute muscular strain with point tenderness, to mention a few. The conclusion was reached that in acute conditions that follow trauma considerable benefit may often be brought about by infiltration of the involved area with hydrocortisone solution.

There are, of course, certain contraindications to such therapy, particularly where injection requires invasion of infected tissue or where the disease process is multiple and generalized, but such contraindications are few in number.

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Viral and Rickettsial Diseases

Laboratory Methods in Diagnosis

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THE DEVELOPMENT of laboratory procedures for the diagnosis of viral and rickettsial diseases has followed the general pattern established for other infectious diseases. At the beginning of this century the main laboratory diagnostic services available were the detection of rabies in dogs, the complement-fixation test for syphilis and the cultural methods for the diagnosis of diphtheria and tuberculosis. This state of affairs prevailed until after World War I. The large state-supported "institutes" of Europe were engaged primarily in the manufacture of vaccines and therapeutic sera and their excursions into laboratory diagnostic "service" were made chiefly to investigate veterinary or human diseases of economic importance or of other national concern. No "service" as we think of it today was available.

Many of the immediately practical procedures were performed by practicing physicians, but with the increasing complexity of these procedures that became impossible. Procedures which were most useful and not prohibitively expensive for the individual patient were performed in private hospital laboratories and in private clinical laboratories. There remained, however, a large group of tests so expensive that they could be made generally available only through federal and state agencies, and those tests as well as the more usual procedures were assumed gradually by city, county, state and federal laboratories in this country.

With the exception of rabies detection, viral laboratory procedures were limited to the recovery and identification of an infectious agent in suitable experimental animals. About 25 years ago the serum neutralization test (which had been proposed and first used experimentally by Landsteiner about 15 years earlier) was developed for yellow fever. Subsequently this technique proved applicable to a variety of viral diseases. However, the requirement of 50 or so mice to carry out a test of this type for one virus and with but a single pair of blood specimens made development of *in vitro* techniques extremely desirable. Thus the application of com-

Factors contributing to the development of viral diagnostic services have been: (1) technical advances, and (2) increasing demand for services due to relative and actual increases in the prevalence of these illnesses. This increase has been both relative, as in the case of diphtheria, etc., and actual as in the cases of poliomyelitis. Technical advances have been numerous and frequent. One of the most spectacular has been the development of methods for the culture of living cells for the propagation of viruses. Emphasis must be placed on the fact that the diagnosis of many viral diseases requires close teamwork between local, state, federal, and privately supported agencies. Laboratory procedures remain expensive but are frequently the only way to determine the exact nature of a particular illness. The available or practical procedures are emphasized in this discussion.

plement-fixation was broadened with the development of satisfactory viral and rickettsial complement-fixation antigens.

In California, viral diagnostic services were first provided in connection with investigative programs of various university and private laboratories; the Hooper Foundation of the University of California was particularly active in this field. In the late 1930's a laboratory facility was established in Berkeley for the investigation of influenza and related epidemic respiratory diseases. This laboratory, which initially was privately supported for field research purposes, developed into a state-wide, publicly supported diagnostic service.

The factors contributing to the development of viral diagnostic services have been: Technical advances, acceptance of responsibility for provision of such service by public agencies, and increasing demand for services due to increased importance of viral diseases. This increase has been both relative, because of declining prevalence of such diseases as diphtheria, tuberculosis and bacterial pneumonia, and actual, as in the case of poliomyelitis.

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Local service needs should be met in so far as possible, by local laboratory facilities, but local service must of necessity be limited in scope because of the burden of overhead necessary for the maintenance of comprehensive service and research facilities essential for a complete viral and rickettsial diagnostic program.

METHODS

The methods developed for the specific diagnosis of other infectious diseases are almost all adaptable in one way or another to the diagnosis of viral and rickettsial infections. However, three limiting factors—the small mass of viruses and of rickettsiae, the lack of detectable morphological differences, and the requirement for a living host cell for growth and manifestation of pathogenicity—have imposed formidable practical limitations. In the conventional agglutination test, the Widal for example, the typhoid bacilli comprise the great proportion of the agglutinated mass, the visible endpoint, antibody contributing only a small amount; and, in the precipitin and flocculation tests, the antigens although of small size are readily available in large quantities of concentrated material. On the other hand, although specific aggregation or agglutina-

tion of the rickettsiae and larger viruses by antibody is feasible and is actually employed on occasion in investigative studies, the preparation of concentrated suspensions of the infectious agents is so difficult as to preclude practical diagnostic use. The necessity for living systems has been partially overcome, first through the use of small, relatively inexpensive animals (mice, and more recently baby mice), second, through the use of embryonated eggs, and third and most recently through improved methods of tissue culture. The available techniques and the applications are listed in Table 1.

The complement-fixation technique is an old and familiar procedure and its employment in viral and rickettsial diagnosis is not materially different from its use in syphilis. Unlike the syphilis tests, however, the viral and rickettsial antigens are *specific*. There are some instances of a general cross-reactivity, such as between Rocky Mountain spotted fever and rickettsialpox, but these are not troublesome. Rather, these cross-reactions can be useful, as for example in the use of the soluble typhus antigen for screening purposes rather than the more expensive but specific washed rickettsial antigens, to distinguish classical and murine typhus antibodies. Modern development of dried complement,

TABLE 1.—Summary of diagnostic procedures for viral and rickettsial diseases

Type of Examination	CLASS OF DISEASE				
	Respiratory	Central Nervous System	Cutaneous Systemic	Eye	Other
Complement-fixation	Q fever Psittacosis Influenza	Encephalitis Mumps LCM Herpes simplex Colorado tick fever	Typhus Spotted fever Herpes simplex Rickettsialpox	Herpes simplex	LGV Mumps
Hemagglutination inhibition	Influenza	Mumps		Newcastle disease	
Neutralization	Influenza*	Encephalitis LCM Poliomyelitis	Variola vaccinia Herpes		Yellow fever
Nonspecific agglutination	Primary atypical pneumonia		Typhus Spotted fever Scrub typhus		Infectious mononucleosis
Direct microscopic		Rabies	Variola	Trachoma Inclusion blenorrhea	
Cultural	Influenza Epidemic pleurodynia and herpangina	Encephalitis Mumps LCM Colorado tick fever Herpes simplex Rabies Poliomyelitis Coxsackie B	Variola Typhus Spotted fever Rickettsialpox Scrub typhus		Mumps
No satisfactory test	ARD (common cold)		Varicella Herpes zoster Measles Rubella		Viral enteritis Hepatitis

*Available but not generally used because of practical limitations.

Key to Abbreviations: ARD=Acute respiratory disease; LGV=Lymphogranuloma venereal; LCM=Lymphocytic choriomeningitis.

uniform and high titer sheep-cell hemolysin, and noninfectious, reliable antigens has made viral and rickettsial complement-fixation techniques adaptable to local laboratory use.

Fortuitously, the complement-fixation is proving especially useful in those diseases caused by a number of closely related agents. For example, the large number of antigenically different strains of influenza A and A' viruses require multiple antigens for neutralization and hemagglutination inhibition tests, but a common complement-fixation antigen reacts with antibodies produced by any of the strains. Furthermore, high levels of complement-fixation antibody appear to be closely associated with the active phase of infection with a particular agent, do not persist long after recovery, and are not ordinarily seen in high titer following vaccination.

Hemagglutination inhibition, based on the property of specific immune serum to prevent clumping of erythrocytes by various viruses, has become a very popular procedure particularly in the epidemiologic investigation of influenza. This technique has also been found useful in the diagnosis of mumps and certain diseases of veterinary importance. The technique is simple and reproducible and can be carried out with a minimum of equipment. The readiness with which this test detects minor antigenic variation limits its utility and its scope (Table 1). Hemagglutination inhibition techniques have been proposed for equine and St. Louis encephalitis, but at present they are of such technical complexity that they are not practical.

Neutralization of viruses by the corresponding specific antibodies has the prestige of seniority over the other techniques. The use of animals has been traditional as a device to detect residual virus in mixtures of virus and serum, but animal inoculation has become more general with the adoption of chick embryo, infantile animals and tissue cultures as testing tools. Development of the tissue culture technique has been meteoric after a long lag period, and today practical tissue culture procedures are almost within the scope of the routine testing laboratory.

The nonspecific tests, best exemplified by the Weil-Felix proteus agglutination in the diagnosis of typhus fever, have had long usefulness. But wherever the specific antigen is feasible and reasonable in cost, its use is recommended over the nonspecific antigen. Academically this is highly desirable but practically is not always the best procedure. For example, in early-treated cases of typhus and Rocky Mountain spotted fever the complement-fixation reactivity of the early convalescent phase

serum may be inconclusively low or absent, whereas the proteus OX19 or OX2 agglutination to high titer by the same serum may permit a diagnosis. Infectious mononucleosis is included in the table on the assumption that it is caused by a virus, although this has not been proved. The sheep-cell agglutination in this instance is analogous, perhaps, to the Weil-Felix test before the etiologic agent of typhus fever had been defined. Agglutination of human erythrocytes at cold temperatures by early convalescent phase serum has been extremely useful in the definition of certain primary atypical pneumonias. This phenomenon is an example of a non-specific autoantibody reaction.

Direct microscopic methods generally have as their purpose the demonstration of characteristic inclusion bodies and viral particles in cells or exudate obtained directly from the lesions of a disease. Diseases that lend themselves to direct microscopic methods are rabies, variola, herpes simplex, trachoma and inclusion blenorrhea. Varicella-herpes zoster infections are not practically diagnosed thus, although they may enter the differential diagnostic possibilities of certain of the other diseases mentioned and may be diagnosed by exclusion. Inclusion body detection has been suggested as a diagnostic procedure for examination of sputum and material washed from the throat in certain respiratory illnesses, but so far has been of no practical value. A drawback to this method is obvious in rabies diagnosis in dogs—namely that inclusions resembling the Negri body may be observed in animals dead of other diseases, and that absence of inclusions in the material examined does not absolutely deny the diagnosis of rabies infection.

Cultural procedures, as has been mentioned, entail the transmission of the infectious agent to a susceptible host system: An intact animal, avian embryo or tissue culture. In those instances in which the changes induced in the experimental system are specific—rabies, for example—immediate identification of the agent may be possible as soon as disease appears. However, in most viral infections, whether of animals or cells in culture, the changes are nonspecific and it is necessary to identify the specific agent by neutralization, complement-fixation or protection tests with known specific antisera. Even in rabies this procedure is occasionally necessary. In spite of these limitations, culture of the infectious agent is very useful in the laboratory diagnosis of poliomyelitis (tissue culture), the Coxsackie infections (infant mice), smallpox (chick embryo) and herpes simplex (chick embryo and infant mice), as well as a sound approach to the ultimate discovery of practical methods for the diagnosis of other diseases.

HANDLING THE SPECIMENS

Identification. This simple and obvious necessity is overlooked frequently; a satisfactory specimen may arrive in good condition at the laboratory—but without the patient's name or the physician's name or either. A brief summary of the clinical history, including the date of onset and date of bleeding or other sampling is likewise of great assistance in interpreting laboratory test results.

Blood Specimens for Serologic Tests. Glassware for blood specimens should be clean, dry, and preferably sterile. Care should be exercised to remove all of the cleaning agent because most of them interfere with serologic tests and are also toxic to viruses, to other microorganisms, to laboratory animals and to tissue cultures. For example, chromate ion (in the commonly used chromic acid cleaning solution) is extremely adherent to glass and will poison viruses stored in such glass. Sodium lauryl sulfate, on the other hand, can be rinsed out of glassware readily and therefore is better for cleaning tissue culture glass. Sterility of the specimen, always desirable, is essential for neutralization studies and for most animal work. Blood bottles or tubes should be tightly stoppered, preferably with rubber stoppers. In the case of air-mailed tubes it is wise to tape the stoppers securely to prevent their popping out at low air pressure. Postal regulations call for a double container, an inner one of metal, an outer one of fiber or cardboard, to prevent damage to other mail and hazard to postal employees. Blood specimens for serologic tests should be kept cool or refrigerated, but not frozen. Frozen and thawed blood cannot be tested by most techniques; frozen and thawed serum, however, can be examined serologically.

Biopsy and Necropsy Specimens. Blood, tissue for biopsy, cerebrospinal fluid, throat washings, sputum, vesicle fluid or crusts should without exception be preserved by rapid freezing, and shipped in dry ice. Some viruses are relatively stable in water or in 50 per cent glycerine (for example, poliomyelitis, Coxsackie, herpes), but many are extremely labile. Smallpox virus is uniquely resistant to drying; therefore dried crusts or pox fluid may be shipped long distances or stored for relatively long periods over drying agents without loss of virus. On the other hand, poliomyelitis virus, which is relatively stable in water, is rapidly destroyed by drying. When dry ice is not available it is best to ship in wet ice according to the procedure used to transport dog heads. It is poor practice to store such materials in the home or office freezer or freezing compartment because of the alternate slow freezing and slow thawing which occurs during such storage.

Surgical aseptic technique should be the guiding principle in obtaining specimens at necropsy for purposes of viral or rickettsial isolation. This is likewise a prudent precaution for protection of personnel and the environment against possible dangerous and insidious contamination. Such specimens should be preserved and transported with precautions outlined above.

Laboratories commissioned to provide viral diagnostic services for physicians in California are:

1. The Virus Laboratory, California State Department of Public Health, Berkeley, California (Statewide service).
2. The Virus Diagnostic Laboratory, United States Public Health Service, Montgomery, Alabama (Specimens should be submitted through the State Virus Laboratory).
3. The Virus Laboratory, Los Angeles City Health Department, Los Angeles (for physicians in the city of Los Angeles including Los Angeles County Hospital).
4. For Military and V. A. installations, the Sixth Army Area Laboratory, Fort Baker, and the Department of Virus and Rickettsial Diseases, Army Medical Service Graduate School, Washington 12, D. C.
5. An increasing number of city and county laboratories are providing serological tests as commercial antigens become available. In areas other than those mentioned, the physician is advised to consult his local health officer.

Other qualified laboratories which might be interested in unusual infections from an investigative point of view are:

1. The University of California Medical Center, San Francisco
 - (a) The Hooper Foundation (particularly psittacosis and ornithosis).
 - (b) The Proctor Foundation (ophthalmic infections).
 - (c) The Department of Pediatrics (smallpox).
2. The University of California Medical Center, Los Angeles
 - (a) The Division of Virology, Department of Infectious Diseases and the Central Hospital Laboratories.
 - (b) The Department of Pediatrics (Respiratory Infections in the newborn).
3. The College of Medical Evangelists
Department of Pediatrics
Los Angeles County Hospital.

DISCUSSION

Of the procedures listed, the *in vitro* serological procedures are by far the most economical; the complement-fixation test is particularly useful and is the most widely used test for those diseases for which satisfactory complement-fixation antigens are available and in which complement-fixation antibodies appear. A particular advantage is that whereas neutralizing and hemagglutination inhibiting antibodies may persist for months and years following immunization or infection, complement-fixation antibodies tend to fall to appreciably lower levels in weeks or months following most diseases.

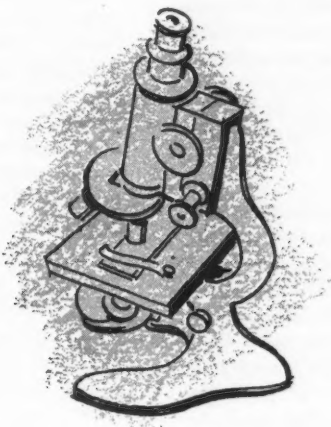
Practically, serial specimens, one collected as early in the course of the infection as possible and one or more collected during convalescence, are always desirable. However, high levels of complement-fixation antibody can often be regarded as presumptive evidence of recent infection even though an increase cannot be demonstrated. The problem of the early or "base line" serum is a very real one because obviously the physician may not suspect a viral infection until late in the course of the disease.

The best results in virus diagnostic work are obtained when there is close collaboration between the physician and the laboratory. One of the most frustrating experiences in virus diagnostic work is to receive a specimen with a "blanket" request for

"virus diagnostic studies"; obviously, even in tax-supported institutions one cannot set up a battery of tests like "febrile agglutinins" for all of the viral infections when the tests for a single agent may cost fifty to a hundred dollars. If the physician cannot make a specific request himself, or cannot telephone the laboratory, the next best alternative is to send a brief clinical abstract of the case so that the director of the laboratory may select the appropriate tests.

Emphasis herein on the limitations of virus diagnostic tests will not, it is to be hoped, be completely discouraging. The situation is infinitely more optimistic now than it was 15 years ago and we can look forward to the availability of more and more useful procedures.

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Epiphyseal Stimulation in the Lower Extremities

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EPIPHYSEAL STIMULATION was carried out in 12 patients at the Orthopaedic Hospital, Los Angeles. There was a total of 15 procedures, three patients having had two stimulations one year apart. Eight of the patients had congenital shortening of a lower extremity and four had residual effect of post-poliomyelitis. The youngest patient was 18 months of age, the oldest eight years, and the average was six years.

The procedure used was that described by Pease,³ in which the distal metaphysis of the femur or the proximal metaphysis of the tibia was exposed and an ivory peg placed across the bone. However, in most cases in the present series brass screws were used rather than ivory pegs, brass screws in eight instances, ivory pegs in five; and drill-hole osteotomy was done twice. The stimulation was applied to the distal femoral epiphysis in seven instances, to the proximal tibial three times and to the distal femoral and proximal tibial five times.

To evaluate the results of the stimulation procedure, it was first necessary to determine whether or not the disparities in leg length in such cases are static or progressive. To this end 32 cases of disparity owing to poliomyelitis and 22 cases of congenital shortness of a leg were reviewed. Periodic teleoroentgenographic studies for an average period of six years were available. In all cases the disparity increased progressively. Therefore, in evaluating results in the cases in which epiphyseal stimulation procedures were carried out, consideration was given to the progressive increase in disparity that might otherwise have been expected. In 11 instances the procedure was beneficial. The maximum increment due to stimulation was five-eighths of an inch; the minimum one-eighth of an inch; the average one-fourth of an inch. In four cases growth was delayed by the procedure, and in one of those cases a fusion of the medial half of the distal femoral epiphyseal plate developed. The distance that the screws or pegs were placed from the epiphyseal plate varied from one-sixteenth inch to one and one-fourth inch. In the four cases in which a delay in growth occurred, the pegs were initially placed closer than one-fourth of an inch from the epiphyseal line.

From the Orthopaedic Hospital, Los Angeles 7.

Submitted April 22, 1955.

This study was aided by a grant from the Donate Once Club of North American Aviation, Inc.

• *Epiphyseal stimulation to correct disparity in the length of lower extremities was done in 12 children. The total number of procedures was 15. In 11 of the 15 instances the operation was beneficial. Ivory pegs were used in some cases, brass screws in others and multiple drill holes in still others. There seemed to be no difference between them in the amount of stimulation brought about.*

Stimulation persisted for from six to ten months after operation.

Complications that may occur are varus or valgus deformities, delay in growth, complete fusion, or infection. To prevent varus or valgus deformity, both medial and lateral sides may be stimulated simultaneously. Great care must be taken to place the screws no closer than one-fourth inch to the epiphyseal plate to avoid trauma which may delay rather than stimulate growth. Late infection may be obviated by the use of absorbable materials.

The increase brought about by stimulation procedures is probably attributable to hyperemia following subperiosteal stripping.

The maximum period of time that stimulation persisted was from six to ten months. After that, teleoroentgenographic examination at intervals of three months revealed no further stimulation.

No difference between ivory pegs and brass screws was noted. Stimulation also resulted in the two cases in which only drill holes were used for stimulation. Stimulation of one epiphysis often affected the growth of both femur and tibia. There was no difference in results as between cases in which the femur was stimulated, those in which the tibia was the site chosen and those in which both sites were treated simultaneously. In the three cases in which a second procedure was carried out one year after the first, the amount of stimulation was equal to that of the initial procedure.

Complications that may occur are varus and valgus deformities, delay in growth, or possible complete fusion. These untoward results may be caused by periosteal tearing across the epiphyseal plate, or by piercing of the epiphyseal plate by pegs or screws. In cases in which the operation was

TABLE 1.—Data on epiphyseal stimulation in cases of congenital disparity in length of legs

Case No.	Sex	Age at Surgery	Material Used	Site	Surgical Approach	Distance from Epiphyseal Line	Stimulation	Complication
1.	M	8	2 brass screws	Distal femur	Medial	$\frac{1}{2}$ "	$\frac{1}{4}$ "
2.	M	8	4 brass screws	Distal femur and prox. tibia.	Medial	$\frac{1}{4}$ "	$\frac{1}{4}$ "	Infection 2 years from time of surgery
3.	M	2	Multiple drill holes	Distal femur and prox. tibia	Medial	$\frac{1}{4}$ "	$\frac{1}{8}$ "
4.	M	3	4 ivory pegs	Distal femur and prox. tibia.	Medial and lateral	$\frac{1}{4}$ "	$\frac{3}{8}$ "	20° flex. cont. of knee
5.	M	3½	1 brass screw	Distal femur	Medial	$\frac{1}{2}$ "	$\frac{1}{8}$ "	2° valgus
6. (Second Procedure)	M	4½	Removal screw. Insertion 1 ivory peg	Distal femur	Medial	$\frac{1}{2}$ "	$\frac{1}{8}$ "	5° valgus
7.	M	2	Multiple drill holes	Distal femur and prox. tibia.	Medial	$\frac{1}{2}$ "	$\frac{1}{2}$ "	2° valgus
8.	F	6	2 brass screws	Distal femur and prox. tibia.	Medial	$\frac{1}{2}$ "	$\frac{1}{4}$ "	8° valgus
9.	M	7	2 brass screws	Distal femur	Medial and lateral	$\frac{1}{16}$ "	Fusion, medial aspect of epiphyseal line

TABLE 2.—Data on epiphyseal stimulation in cases of postpoliomyelitis disparity in length of legs

Case No.	Sex	Age at Onset of Polio	Age at Surgery	Material Used	Site	Surgical Approach	Distance from Epiphyseal Line	Stimulation	Complication
10.	M	4 mo.	8	Brass screw	Distal femur	Medial	1"	$\frac{1}{8}$ "
11. (Second Procedure)	M	4 mo.	9	2 ivory pegs; screw removed	Distal femur	Medial	$\frac{1}{4}$ "	$\frac{1}{8}$ "	Valgus 3°
12.	F	3 yr.	7	2 ivory pegs	Prox. tibia	Medial	$\frac{1}{2}$ "	$\frac{5}{8}$ "	Valgus 3°
13.	M	2 yr.	6	1 ivory peg	Distal femur	Medial	$\frac{1}{16}$ "	$\frac{1}{8}$ " delay
14. (Second Procedure)	M	2 yr.	7	1 ivory peg	Distal femur	Lateral	$\frac{1}{16}$ "	$\frac{3}{8}$ " delay
15.	F	4 yr.	8	2 brass screws	Prox. tibia	Medial	$\frac{1}{16}$ "	$\frac{1}{8}$ " delay	Valgus 5°

done through a single medial approach, a moderate valgus deformity developed. This probably resulted from elevation of the periosteum only on the medial side of the bone, thereby stimulating the medial aspect of the epiphyseal plate more than the lateral.

Fusion of an epiphysis occurred in one case. The patient was a seven-year-old boy and the distal femoral diaphysis was approached through a medial and lateral incision. By x-ray visualization during operation it was observed that the medial screws were within one-sixteenth inch of the plate. The screws were withdrawn and replaced farther away. In the following months the medial half of the epiphysis fused. Varus became so pronounced that the screws were removed and supracondylar osteotomy was done. When last observed, the patient was ten years old and still growing. Hence the deformity had recurred and at that time growth was delayed three-fourths of an inch.

In a patient who had been asymptomatic for two and one-half years following the insertion of brass screws, pain developed in the lower thigh four days after an upper respiratory tract infection. The patient was febrile, the blood sedimentation rate was accelerated and the number of leukocytes was elevated. Upon x-ray examination, increased rarefaction was noted around the brass screws in the

distal femoral diaphysis. The fever and pain subsided after two weeks of antibiotic therapy. Operation was carried out and the two screws were observed to be surrounded by necrotic granulation tissue. The patient was asymptomatic after removal of the screws.

Several observations would seem to indicate that epiphyseal stimulation is related to subperiosteal reaction:

1. In a review of femoral fractures in children it was found that overgrowth occurred in all cases—more with open reduction than with closed reduction. Overgrowth was greatest in cases in which a metal plate was applied, and only in those cases did stimulation persist for more than one year. The overgrowth did not depend upon where the fracture was situated in the shaft, and overgrowth occurred in the tibia also.

2. Moderate valgus deformity developed in all cases in which the stimulatory procedure was done through a single medial approach.

3. There was no difference between screws, pegs and drill-holes so far as the amount of stimulation was concerned.

4. No further stimulation was noted after the first few months following the procedure.

5. Wu and Miltner⁵ in 1937, in an extensive experimental study with rabbits, repeated the procedures of Meisenback, Pearse, Ferguson and others and did not produce significant increase in growth. However, simple elevation of the diaphyseal periosteum resulted in definite lengthening in 19 of 23 rabbits.

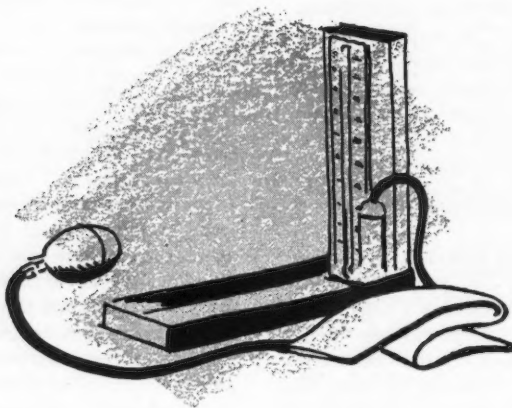
In view of these observations it is felt that the stimulation which occurs is the result of periosteal elevation and subperiosteal hematoma and that any persistence of stimulation is brought about only by subperiosteal reaction. Perhaps prolonged stimulation could be best accomplished by elevating the diaphyseal periosteum and placing absorbable foreign material, such as chromic catgut, under the periosteum. Foreign material that is buried in the

bone itself does not cause stimulation of the epiphyseal plate.

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History of Pathology in California

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THE STORY of pathology in California, as in most of our states, is comparable to the story of other fields of medicine of a more or less similar nature, sometimes referred to as ancillary specialties. Conceived first as a rather nebulous and ill-defined sphere situated somewhere between the fields of bacteriology and anatomy, pathology experienced many pains of uncertainty before it emerged as a fully developed and recognized specialty of medicine.

Bacteriology and pathology were in their infancy even in Europe in the middle and latter parts of the Nineteenth Century and it took some time for the various advancements to reach the shores of America. Virchow published his immortal work on cellular pathology in 1858. Pasteur had only successfully inoculated against cholera in 1880 and proved his rabies prevention in 1885 and it was not until 1882 that Koch announced isolation of the tubercle bacillus. It was during these times and with this backdrop that pathology first came to be mentioned in California.

In 1858 Dr. Elias S. Cooper founded a branch of the University of the Pacific as a medical school in San Francisco. J. Morrison was named Professor of the Principles and Practice of Medicine and Pathology. After Cooper's death in 1864, the school was discontinued; but it was reorganized in 1870 as the Medical College of the Pacific and Edwin Bentley became Professor of Descriptive and Microscopic Anatomy and Pathology. Joseph H. Wythe became Professor of Microscopy, Biology and Pathology in 1874. The school (later to be the Stanford University School of Medicine) became the Cooper Medical College in 1882, and Wythe remained in his position on the faculty until his retirement in 1898. In the meantime, however, in 1893, a new chair of pathology was founded and filled by Albert Abrams. He was succeeded in 1898 by the beloved William Ophüls, who may be considered the father of pathology in California. Ophüls brought great brilliance to this department for many years both as a teacher and pathologist and was replaced after his long illness by William Dock, and later by the present professor and head of the department, Alvin J. Cox. Among the students of Ophüls are the illustrious David A. Wood, James McNaught, Jean Oliver, Edward M. Butt, Ernest M. Hall, Alvin J. Cox and Sidney C. Madden.

Chairman's Address: Presented before the Section on Pathology and Bacteriology at the 84th Annual Session of the California Medical Association, San Francisco, May 1-4, 1955.

The University of California had a more timid and certainly more ambiguous beginning than Stanford. In 1878, the University catalogue listed a Lecturer on Pathology, Histology and Microscopy, but no individual's name was mentioned. One may infer that the subject was not an immediate success, for in the following year no mention of the course was made. In 1880, some reference was made to pathology but no specific course was cited. In 1881, a course was given but the name of the teacher was not mentioned. A very pertinent observation was made in the announcement of that year which gave some indication of the California attitude yet to come:

Contrary to the custom of Eastern medical colleges, the Regular Term of this school is held during the summer, not the winter months. The peculiar climate of San Francisco renders summer far the preferable season for prosecuting medical studies; hence, the regular session has always been held from June to November. During this period, and indeed, largely throughout the other months of the year also, cool trade-winds blow across the city daily, moderating the temperature and particularly favoring the study of practical anatomy and necropsy. The student in this city enjoys rare natural advantages for the healthful pursuit of his labors, such a contingency as his detention from lectures or clinics by stress or weather being absolutely unknown.

From that year on, frequent mention was made of the teaching of pathology, but usually in the Department of Medicine or Histology. It was not until 1901 that Alonzo Taylor was listed as Professor of Pathology and in 1905 Phillip King Brown for the first time was listed as Instructor in Clinical Pathology. In 1910 and 1911, no mention was made of a professor of pathology in the catalogue. In 1911-1912, Frederick P. Gay was listed as Professor of Pathology and Glanville Y. Rusk as Assistant Professor. The course was given in the old Hearst Laboratory in Berkeley. The combination of Gay and Rusk continued until 1921 when Gay, who was fundamentally a bacteriologist, became Professor of Bacteriology in Berkeley. Rusk continued teaching as an Associate Professor of Pathology until 1928 when the present Chair of Pathology was created and he became the first to occupy it. Charles L. Connor came to California from McGill in 1928 as Associate Professor and became Professor and Head of the Department in 1930. He served in that capacity

until his death in 1941. Among the students of Rusk and Connor were James F. Rinehart, who at present is Professor and Chairman of the Department; Jesse L. Carr, Harry Smith, Gerson Biskind, Leonard Buck, Alfred Heald, Stuart Lindsay and Warren Bostick.

The Los Angeles area was somewhat later than San Francisco in developing the field of pathology. Stanley P. Black came to Los Angeles in 1897 after studying pathology at Cook County Hospital under the famous Christian Fenger. Arriving in Pasadena, he opened a laboratory in Los Angeles and became Professor of Pathology at the University of Southern California Medical School. As a teacher and pathologist he wielded a great influence on the medical practice in his community. He was Health Officer of Pasadena and helped establish the first bacteriological laboratory in the city health office of Los Angeles. He became one of the original members of the Milk Commission of Los Angeles. In 1906, Northwestern University, his alma mater, bestowed upon him the honorary degree of master of arts. Black was a charter member of the Los Angeles Clinical and Pathological Society and in 1909 became president of the Los Angeles County Medical Association and vice-president of the American Medical Association. He continued to exert a great influence in medicine and pathology until his death in 1921. Dr. Mona Bettin was associated with Doctor Black and also did much to advance pathology in Los Angeles. At approximately the same time, Andrew F. Wagner was Associate Professor of Pathology at the College of Physicians and Surgeons in Los Angeles. Another important person associated with Doctor Black in the early phases of pathology in the Los Angeles area was Charles W. Bonyne, a graduate of the University of Southern California Medical School in 1903. He wielded a profound influence on early pathology in his community and developed an early interest in the Milk Commission. He taught at the University of Southern California Medical School for many years and his keen interest in medicine did much to influence the advancement of his specialty. Bonyne was the first pathologist to perform the Wassermann test in southern California. In his later years, he was Consulting Pathologist to the Children's Hospital and St. Vincent Hospital, where he died in October of 1951.

The first pathologist at the Los Angeles County Hospital was H. E. Charlton, who was appointed in 1910. He resigned in 1915 and was replaced by Clarence Johnson. Roy Hammack was appointed pathologist in the fall of 1916 but was given leave of absence to enter military service in 1917 and was relieved by James R. Scott. After World War I, Hammack returned as chief pathologist and remained until 1921, when he became affiliated with the Brem-

Zeiler Laboratory. George Maner replaced Hammack in 1921 and remained until 1928 when he, too, joined the laboratory of Brem, Zeiler, and Hammack. Newton Evans, then Professor of Pathology at the College of Medical Evangelists, became chief pathologist at the hospital until his retirement in 1944.

On August 14, 1911, Drs. Walter V. Brem and A. H. Zeiler formed a laboratory which was destined to play an extremely important role in the development of pathology in the southern part of California. They had been associated in the United States Public Health Service under Gorgas during the construction of the Panama Canal. Brem and Zeiler were truly pioneers in the field of pathology-hospital relationship, for in 1915 they developed the concept of pathologists' being independent hospital contractors. Many other important developments can be traced to the wide vision of these two pathologists, who gradually attracted other men of outstanding ability. At present this group has its headquarters at The Clinical Laboratory on Westlake Avenue and operates and directs the laboratories of the Hospital of the Good Samaritan, Queen of Angels Hospital, the California Hospital, the Methodist Hospital, and the St. Francis Hospital. The staff at present consists of Doctors Maner, Wright, Camero, Tragerman, Rehbock, Cremin and Bangle.

Meanwhile there existed a very important and significant medical school in the Los Angeles area. The College of Medical Evangelists at Loma Linda became a real force in the medical field of education and the Department of Pathology was a dominant factor in its growth. Newton Evans came to this institution in 1914 and held the Chair of Pathology until his death in 1946. Evans gained local and national recognition as a pathologist and was responsible for the training of many outstanding students. Among the distinguished followers of Evans were Oren I. Cutler, Orlyn Pratt, the present head of the department, and C. S. Small, Clinical Professor of Pathology at the College. Many eminent pathologists have come from this institution.

The youngest medical school in the state, that of the University of California at Los Angeles, was fortunate in obtaining a native son of California as Professor and Head of the Department of Pathology. Sidney C. Madden, who was a member of the last class taught by the late William Ophüls at Stanford, was appointed to that position in 1951.

The intermediary period of pathology in the Los Angeles area was most productive, for during that period there came to the southland many able pathologists who were to guide this specialty into a place of high prominence throughout the nation. A. M. Moody came to the Huntington Memorial

Hospital in 1921 and left in 1924 to become pathologist to St. Francis Hospital in San Francisco. There he served until he became affiliated with St. Mary's Hospital in 1940. Moody was replaced by a man who was to play a very important part in the ascendancy of pathology in the area. Alvin G. Foord came to the Huntington Memorial Hospital in 1931 and brought great ability and color to his specialty. He was president of the American Society of Clinical Pathologists in 1933-1934, a councilor in the period 1942-1946, an original member of the American Board of Pathology in 1936, and a founding member of the California Society of Pathologists in 1947. Ernest M. Hall came to the University of Southern California from Stanford in 1928, when he became Acting Associate Professor of Histology, and was appointed Professor of Pathology and Bacteriology in 1929. He served as a member of the consultant staff of Los Angeles County Hospital. He continued as professor until his retirement in 1951, when he was replaced by Hugh Edmondson, present head of the Department of Pathology. Edward M. Butt who came to Los Angeles in 1931 from Stanford, has played an exceptionally prominent role in pathology, as head of the Department of Pathology at the Los Angeles County Hospital as well as Professor of Pathology at the University of Southern California Medical School.

The Oakland College of Medicine and Surgery was founded in 1900 and began active teaching in 1902. Lectures were given on pathology by men with enthusiasm for the subject but fundamentally interested in other phases of medicine. In the catalogues of the school, courses on this subject were listed but no professor was mentioned by name until 1909 when Martin H. Fischer became head of the department. He, however, was more interested in physiology and left the following year to teach that subject at the University of Cincinnati. William B. Wherry became Professor of Parasitology in 1907 and became interested in parasitic infections. In July, 1908, he made the startling discovery that ground squirrels in Alameda and Contra Costa hills were infected with plague. Until then it had been thought that ship rats from the Orient were the only carriers of this disease. Wherry's work proved of profound importance in the epidemiology of this disease and resulted in great strides toward the elimination of the threat of spread by careful control of the squirrels in the area. Gertrude Moore, who was graduated from the medical college in 1907, became assistant professor in 1909, having trained meanwhile under Pauline Nusbauer at the Western Laboratory. Dr. Nusbauer had organized that laboratory some time previously in collaboration with R. A. Archibald, a veterinarian interested in bacteriology. Dr. Moore became Pro-

fessor of Pathology in 1917 and was a dominant figure in the field of pathology until her death in 1953. Robert Glenn arrived in Oakland from Pennsylvania in 1911 and became the first full-time hospital pathologist in the East Bay at the Samuel Merritt Hospital. He remained at that post until his retirement in 1945. His successor was Charles Baker, the present pathologist. David Singman was the first full-time pathologist to the Alta Bates Hospital in Berkeley. He took that position in 1940. In 1947 Hamilton Fishback became the first full-time pathologist to the Herrick Memorial Hospital in Berkeley. He was preceded by William Reich who had ably performed the direction of the laboratory on a part time basis. Paul Michael came to the Peralta Hospital in 1931 and later assumed duties as pathologist to the Children's Hospital in 1932. Robert Parsons, the first qualified, full-time pathologist to the Alameda County Hospital, began practice there in 1946, and Justin Dorgeloh became the first full-time pathologist to the Providence Hospital, replacing Gertrude Moore when she retired in 1949. Leonard Ortega and George Loquvam have carried on the many activities in pathology since the death of Dr. Moore in 1953. Melvin Friedman has been pathologist to Kaiser Foundation Hospital in Oakland since its inception in 1945.

The history of pathology in San Diego has been interesting and, sometimes, discouraging. The pioneers struggled for many years before this specialty became fully accepted by the public and the medical profession. Harold A. Thompson came to San Diego in 1906 and started a laboratory. Rawson Pickard arrived in San Diego in 1910 after duty with the Public Health Service in Panama. Thompson became City and County Pathologist, as well as pathologist to the coroner. The hospitals had no regular pathologists but designated certain staff members to read slides and do autopsies. Both Pickard and Thompson were forced to supplement their incomes by administering anesthesia to patients having surgical operation. Henry E. Ruediger came to San Diego in 1923 after duty in the Public Health Service in the Philippine Islands and became pathologist to Mercy Hospital. Hal Summerlin, who had been pathologist in the Naval Hospital in San Diego, became pathologist to the Rees-Stealy Clinic in 1928 and, save for service in World War II, remained there until his death in 1951. Howard Ball arrived in San Diego in 1929 and became pathologist at the San Diego County Hospital. He has done much to stabilize pathology in the San Diego area, where he still is in practice. The late James Edgar followed Ruediger as pathologist at Mercy Hospital in 1940 and continued there until

1946. His successor is the very commendable Dominic A. DeSanto, who holds the position at present.

The Sacramento Pathological Society was founded in 1858. Curiously the founding members were practitioners of medicine and not pathologists in the true sense of the word, although they contributed much to the early history of medicine both in the county and in the state. The *California State Medical Journal* (now CALIFORNIA MEDICINE), incidentally, was first published in Sacramento in 1856 but moved to San Francisco the following year. Anthony Diepenbrock was the first physician to open a laboratory in Sacramento. That was in the year 1910. Later J. W. Jones set up a laboratory there. Surgical specimens, however, were sent to San Francisco until the advent of James Snyder in 1923. He continued to practice his specialty in Sacramento until his death in 1931. Paul Christman, the first pathologist at Mercy Hospital in Sacramento, remained there until his retirement in 1952. Following the death of Snyder, the laboratory in the Sutter Hospital was under the direction of S. Schuyler Pulford, who was also practicing internal medicine. Finally, in 1934, Paul Guttman arrived in Sacramento and the practice of pathology assumed the maturity which has continued to the present. In 1945 Guttman was joined by C. M. Blumenfeld. Lewis Nolan, who came from Minnesota in recent years, is at present the pathologist—and the first to serve full-time—at the Sacramento County Hospital.

The first pathologist in the Santa Clara area was Frederick Proescher, who arrived at the Agnew State Hospital in 1922. In 1924 he became pathologist to the newly formed San Jose Hospital and later pathologist to the Santa Clara County Hospital in 1933. In 1947, Proescher retired from the county service to become medical director of the Santa Clara County Blood Center. Paul Michael was the first pathologist to the O'Connor Sanitarium (now, O'Connor Hospital). He began service there in 1932 and divided his time between San Jose and Oakland for over three years. Leslie Grams, the present pathologist at O'Connor Hospital, has been there since 1949. Donald L. Alcott became pathologist to the Santa Clara County Hospital in 1951. Homer Hunt came to the Palo Alto Hospital in January 1948 and is there now. When Robert Dennis began to serve San Jose Hospital as pathologist in 1947, there were five technicians, four of whom were apprentices and not licensed by the state. So great has been the growth in this area that the hospital now engages 21 technicians, four secretaries and four apprentices. At present there are eight certified pathologists in Santa Clara County.

The physician first interested in pathology in the Santa Barbara area was F. R. Nuzum. Although more interested in clinical pathology than in path-

ologic anatomy, he did much to reflect credit on laboratory medicine. He was Chairman of the Section on Pathology and Bacteriology of the California Medical Association in 1926. The first full-time pathologist in the area was Clark Brown, who came to the Cottage Hospital in 1937 and left in 1950 to go to the University of North Carolina. W. J. Tomlinson served Cottage Hospital as pathologist from 1941-1942 and his place was taken by William B. Kroll. William Russell became pathologist at Cottage in 1946 and remained there until in 1948, he left to go to his present position in Texas. E. L. Benjamin succeeded him and serves there at present. John P. Blanchard assumed the duties of pathologist at the Santa Barbara County Hospital in 1949 and still serves in that capacity.

The first pathologist listed in Bakersfield was J. H. Inman, formerly of the University of California, who came to the Kern General Hospital in 1933. Victor Cefalu was one of the early pathologists in Bakersfield. He was there from 1939 to 1943. Jack Kirshbaum, now at San Bernardino, was pathologist in Bakersfield from 1947 to 1949 and did a great service for his specialty. Robert Huntington came to Kern General Hospital, after duty in the Navy, in 1949 and has continued in that position in a creditable fashion. William W. Hall was retired from the Navy in 1949 as a rear admiral and assumed the duties of pathologist to Mercy Hospital. A. W. Eaton joined Dr. Hall in 1952 and also became associated with the San Joaquin and Bakersfield hospitals. A man who did much for pathology in the Bakersfield area was Dr. Edward Butt of Los Angeles, who gave sage counsel on many occasions when problems arose requiring his aid and mature statesmanship.

Other areas throughout the state are also well covered by able pathologists: In Stockton, Elmer Smith and Harry Schneider are currently in practice in pathology. Jeanne Miller and Robert Purvis are serving the Modesto and Merced areas. Fresno is ably served by Clarence Newel and J. J. Bocian. Phillip Flynn is practicing in Redding and Dennis Shillam in Pomona. Owen Thomas practices pathology in Santa Rosa. Marvin H. Morris is pathologist at the St. Joseph Hospital in Eureka and at Trinity Hospital in Arcata. Ernest Simard has performed very ably in the practice of pathology in Monterey County since 1946.

Not mentioned here by name are many capable pathologists in large areas immediately surrounding major medical centers as well as in the armed forces or Veterans Administration hospitals in the state.

The International Association of Medical Museums, now the International Academy of Pathology, at present lists 38 members as resident Californians.

William Ophüls was the only organizing member from California when it was founded in 1907. The American Association of Pathologists and Bacteriologists also is creditably represented by Californians, the present roster listing 50 such members.

When the American Society of Clinical Pathologists was formed in 1922, there were five Californians among the founding fellows, only two of them pathologists—Robert Glenn of Oakland and Rawson Pickard of San Diego. Alvin Foord served as president in 1933-1934, the only Californian to hold this position. The Californians who have been councilors in the period from 1931 to date are Drs. Pickard, Hyland, Foord, Glenn, Guttman, Budd, Fisher, and Michael. California is represented by a number of active and interested Fellows in the society; and on three occasions, 1923, 1938 and 1946, California was the site of the national meetings.

Californians have also played a large part in formation and development of the American Board of Pathology. Organized in 1936, it had among its original members, Alvin Foord, who served until 1944, when he was replaced by James McNaught, formerly of Stanford and now at the University of Colorado. In 1946, Edwin W. Schultz of Stanford was elected a member and served two terms. Although many Californians were blanketed in by seniority when the board was originally formed, the first two pathologists to take and pass the examination were Theodore Kimball of Glendale and Paul Michael in May, 1937.

When the House of Delegates of the California Medical Association met in the Gold Room of the St. Francis Hotel in San Francisco in May, 1931, the delegates voted to form a Cancer Commission. Among the members of the original commission were William Ophüls of Stanford and Herman Zeiler of Los Angeles. Other pathologists have also been active in the commission during the following years, especially Edward Butt and David Wood, the latter having served as secretary for many years. The first slide conference sponsored by the Cancer Commission was held on May 1, 1932, at the White Memorial Hospital in Los Angeles. At that time, Zera Bolin was chairman of the Section on Pathology and Bacteriology and George Maner was secretary. At present this conference is held twice a year. It has become one of the outstanding meetings of pathologists in the country, attracting large numbers of practitioners of this specialty from all over the state.

The Cancer Commission now is associated with the Tumor Tissue Registry and aids pathologists in many centers of the state where study groups are held, such as Los Angeles, San Francisco, Oakland,

San Diego and the Central Valley district. The slide sets that are studied are also made available to other pathologists throughout the state for study. The Tumor Tissue Registry now operating at the Los Angeles County General Hospital first took form during the fall of 1948 under the sponsorship of Edward Butt, chief pathologist to the hospital, and the first conference was held in December of that year. The original group consisted of Drs. Budd, Edmondson, Fisher, Foord, Keasbey and Tragerman. Edward Butt and Ernest Hall were ex officio members. In June, 1949, the tentative constitution was adopted and the following officers elected: Alvin Foord, chairman; O. B. Pratt, vice chairman; Ernest Hall, secretary. In addition, the following were members of the Registry Committee: Drs. Budd, Butt, Edmondson, Fisher, Kahler, Keasbey, Maner, Tragerman and Zundell.

The registry was first organized under the sponsorship of the Los Angeles County Tumor Board and continued so until it came under the sponsorship of the Cancer Commission of the California Medical Association in 1952. Since that time, the registry has been supported by the California Division of the American Cancer Society and the Cancer Commission of the California Medical Association. The first Cancer Commission Slide Conference which the registry prepared in its entirety was held in May, 1950, at San Diego. Since that time the registry has been preparing all the slide sets as well as excellent photomicrographs for all the biannual seminars. The present officers are H. Russell Fisher, chairman; John Budd, secretary; Edward Butt, treasurer.

The Section on Pathology and Bacteriology of the California Medical Association was formed in 1922 and William Ophüls became the first chairman. Since then the following pathologists have served as chairmen of the section: Drs. Brem, Rusk, Evans, Nuzum, Moody, Hammack, Kellogg, Cummins, (E. M.) Hall, Bolin, Proescher, Maner, Pickard, Wood, (Gertrude) Moore, Foord, Guttman, Budd, Ball, Carr, Edmondson, Rinehart, Osborne, (Isabelle) Perry, Brown, Biskind, Small, Bostick, Tragerman, Blumenfeld, Camero and Michael. At first this was the only common meeting ground of pathologists in the state and it served a very good purpose both for the discussion of problems of the pathologists and as a scientific outlet for the activities of the group. During the later years it has served primarily as a scientific outlet at a very high intellectual level.

Many Californians were present in black tie at the headquarters of the American College of Surgeons in Chicago when the Founding Fellows of the College of American Pathologists met in October of 1947. H. Russell Fisher has served on the Board of

Governors and has been chairman of the Ethics Committee for many years. Among the Founding Fellows was David Wood of San Francisco, who was destined to become president of this elite organization. David Wood has done so much for pathology and pathologists in California that this honor seems only right and fitting. Pathologists throughout the country have become keenly aware of the place which he has gained in this sphere of medical practice.

Acceleration of growth and expansion of pathology in California began in the post-World War II era. Many pathologists had been stationed in this area during the war or had temporary duty here while in the armed forces. A great number of them are now resident in the state. When California experienced that great increase in population following the war, greater hospital facilities were needed. With this need came a demand for pathologists to serve the hospitals, and so developed the "great migration" of pathologists to California. New names appeared. Drs. Fisher, Charles Baker, DeSanto, Nathan Friedman, Hummer, Dennis, Simard, Tragerman, Keasbey, Melvin Sommer, Melvin Black and others became new figures in this specialty. It was at about this time that some of the older heads saw the need of uniting the pathologists of the state into one closely knit organization. Thus was born that lusty child of our time, the California Society of Pathologists.

On May 1, 1947, at the California Medical Association convention in Los Angeles, a meeting was held concerning the possible organization of certified or qualified pathologists of California. The temporary officers were Louis J. Dyke, chairman; George Maner, vice chairman; and William O. Russell, secretary. The Board of Governors was made up of George Hummer, Jesse L. Carr, Alvin G. Foord and David Wood. On June 22 these officers met in Santa Barbara and decided to poll by post-

card all the pathologists in California as to their wishes regarding joining the state organization. On December 14 the organizational meeting was held in conjunction with the Slide Conference in Santa Barbara. Eighty pathologists were present and the temporary officers were duly elected as permanent. There were 54 charter regular members and six associate members in the original group. On February 3, 1948, Louis Dyke died and George Maner became president to complete the unexpired term. He then was elected president and later was succeeded by Robert Parsons. In 1948, Russell Fisher became secretary and continued in that office until 1953 when he became president-elect and was replaced by Paul Michael as secretary. The presidents following Parsons have been Drs. Foord, Guttman, Budd, Biskind and Fisher. With the formation of this organization, pathology assumed a position of prominence throughout the state. The society adopted a dominant role in enhancing the stature of pathology in California. Many accomplishments have resulted from the organization on a statewide level. Meetings are held twice a year—one in the winter in conjunction with the Southwestern Branch of the College of American Pathologists and one in the spring with the California Medical Association; both, in turn, with the Slide Conference of the Cancer Commission of the California Medical Association. The society's membership includes, besides Californians, the majority of the pathologists of Arizona, New Mexico, Nevada and Utah. It is the largest such organization in the United States and has united the north and the south, the mountains and the valleys, the academic and the hospital pathologists. It has served as watchdog, always alert for the welfare of all pathologists. Now it can be said truthfully that pathology has matured and finally become of age in California, keeping pace with the rapid strides made in other fields of medicine and contributing its share for the betterment of medicine.

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Herniation of Intervertebral Discs

An Evaluation of the "Indirect Signs"

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DURING THE PAST several years many physicians have accepted as valid the so-called indirect signs of posterior herniation of an intervertebral disc. This has led to erroneous diagnosis in some cases, and to unnecessary examinations and treatment, not to mention compensation awards that may have been unwarranted. Myelographic studies in more than 2,500 cases have brought conviction that these indirect signs do not indicate posterior herniation of an intervertebral disc, but at best can only point to degeneration of a disc, a condition of less clinical importance.

Nevertheless, in a case in which herniation of a disc is suspected, a preliminary x-ray examination of the spine should always be made. Usually a single anteroposterior and lateral view of the lower thoracic and entire lumbar spine, and a lateral spot film of the lumbosacral region will suffice. These films are more to make certain other disease is not present than to aid in the diagnosis of posterior rupture of the disc. To cite Bradford and Spurling:¹ "A clinical diagnosis of ruptured intervertebral disc would be impossible were it not for the fact that almost all conditions producing a similar picture which were not excluded by physical examination, can be eliminated by roentgen examination. The more frequently encountered lesions are primary and secondary neoplasm, decalcifying vertebral disease, spondylolisthesis, fracture, inflammatory disease and anomalies of significant types."

The present study, limited to the lumbar spine, which is the common site of herniation, was undertaken to determine what value the commonly accepted "indirect signs" of herniation might have in the diagnosis of that condition. The signs considered were: Narrowing of the disc space, flatness of the lordotic curve, scoliosis and localized hypertrophic spur formation.

Usually narrowing is indicative of either degeneration and shrinking of the nucleus pulposus or of protrusion in some direction—anteriorly, laterally or into the vertebral body or into the neural canal. In the lumbar region each disc is thicker than the one above, the dorsolumbar being the thinnest and

• *The incidence of so-called indirect signs of posterior herniation of an intervertebral disc in a series of working men who had no symptoms referable to the back was compared with the incidence of those signs in a group of cases in which herniation of a disc was proved at operation. There was no significant difference in incidence. In the cases in which herniation was proved at operation, it occurred no more often at a level where there was a thin disc than at a level where the disc was of normal thickness.*

the fourth lumbar the thickest. Orley³ said that, "when a distal lumbar disc is narrower than the adjacent proximal one the condition is decidedly abnormal." However, this does not apply to the lumbosacral disc, which is usually thinner than the fourth, or to the discs of transitional vertebrae, which are almost always thinner. Willis⁵ observed that the lumbosacral disc "may vary in width anywhere from that of the fourth to the first sacral disc."

Actually, narrowing of the lumbosacral disc should not be considered clinically significant unless there is definite intrusion of the superior facets of the sacrum into the neural foramen. No reliance can be placed on this sign in the diagnosis of posterior herniation.

In the present study it was arbitrarily decided to classify the lumbosacral disc as thin if it was less than one-half the width of the fourth at the posterior margin. With this the criterion for "thin disc," undoubtedly some normal discs were included in the total classified as abnormal, but since there are such variable structural differences at this level, it is doubtful that a more accurate criterion can be found.

Flatness of the back, or lessening of lordosis, is a frequent finding, but is not diagnostic of posterior herniation, for it may also be caused by herniation in any direction or by muscle spasm caused by degenerative or rheumatoid arthritis of the apophyseal joints, by pain of neoplasm, by inflammatory disease or by congenital anomaly.

Hypertrophic spur formation occurs in many persons who make no complaint of discomfort in

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the back, and in most instances this sign of degenerative disease is of little or no importance. Localized spur formation may occur following injury or perhaps from faulty posture, as well as bulging or degenerated discs. It cannot be relied upon as a sign of such degeneration and certainly not as indicating herniation.

Scoliosis is frequently a concomitant of posterior herniation, but its presence cannot be of value in diagnosis of that condition, for it may be due to a wide variety of causes and it quite commonly occurs in persons who have no discomfort in the back.

Not long ago a large industrial company⁴ decided to survey a group of employees who had worked for the company for ten years or more, who denied having discomfort in the back either on or off the job and who had not asked for treatment for back disability at any time during their employment.

Chosen for the survey were 200 men in the outside equipment and construction forces, including some drivers and supplymen, who had worked in those forces exclusively for not less than ten years. The 200 men were divided into two groups, one made up of those under 38 years of age, the other of those over 38. By chance there were 99 in the younger group and 101 in the older. In the younger group the average age was 33 years and the length of service in the company 11 years; in the older group 48 and 24 years, respectively.

Anteroposterior and lateral films of the entire lumbar spine and a spot film of the fifth lumbar vertebral area were made. All abnormalities observed were reported in the following classifications: Congenital, traumatic, degenerative, inflammatory, arthritic, neoplastic and structural. In the entire series there were only 16 men without one or more of those abnormalities. Scoliosis was noted in 91 cases, decreased lordosis in 44, one or more discs thinner than normal in 80 and local spurs in 18. In 51 of the subjects some abnormality at the lumbosacral level was seen.

For purposes of comparison, 68 unselected cases proven at operation were reviewed with attention to the concomitance of "indirect signs" and herniation. The incidence of those signs in the group of 200 symptomless men was used as control.

TABLE 1.—Incidence of indirect signs of herniated intervertebral disc

Indirect sign	68 Symptomatic Cases Proven at Operation* (Per Cent of Cases)	200 Symptomless Working Men (Per Cent of Cases)
Lessened lordotic curve.....	25	22
Scoliosis	20	45
Local spurs	40	37
Disc thinner than its neighbors	66.6	40

*Herniation was observed in 60 cases—the fourth lumbar disc in 30 cases, the fifth lumbar in 29 cases and the third lumbar in one case.

The incidence of most of the indirect signs was somewhat greater in the presence of herniation, but not enough greater to warrant conclusion that the association is significant (Table 1).

Herniation at the level of a thin disc occurs no more frequently than at the level of a normal disc. In 50.4 per cent of the 60 cases proven at operation, herniation occurred at the level of a thinned disc. The remaining 49.6 per cent of cases were divided as follows: Herniation without thinning of any discs, 33 per cent; herniation at a level above a thin disc, 10.0 per cent; herniation below a thin disc, 6.6 per cent. Hampton and Robinson² noted thinness of the fourth disc in only about one-third of cases of posterior herniation at the fourth disc; and in cases in which the lumbosacral disc was thin, herniation occurred more often at the fourth disc than at the lumbosacral.

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What Psychiatrists Think About Alcoholism

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A NEWLY CONSTITUTED committee on alcoholism of the Southern California Psychiatric Society waited enthusiastically for one and a half years for important problems on alcoholism to be referred to it. Time went on, nothing was referred, and under the pressure of idleness, the committee began to wonder if the whole problem had been solved while our psychiatric backs were turned. Accordingly, a questionnaire was constructed to determine whether there was any opinion on the various aspects of the alcohol problem, and if so, what these opinions were. Psychiatrists were canvassed as to treatment of alcoholics, therapeutic results, types of treatment utilized, and hospital and clinic facilities available and desired. The attitude of psychiatrists toward certain medicolegal problems and their opinions regarding Alcoholics Anonymous were obtained. Of the 200 members, 86 (43 per cent) responded.

From the replies it was noted that psychiatrists show considerable discouragement with their present methods of attacking the problem of alcoholism. They are often not interested in treating alcoholic patients, an apathy which is illustrated by the fact that almost half of the psychiatrists questioned will not accept them as patients. Two-thirds of the psychiatrists will not accept alcoholics who require hospitalization. Furthermore, half of the psychiatrists who are willing to treat alcoholics, strictly limit the number accepted to one or two. Those who accepted alcoholics had only 6 per cent of their practice in this category. Almost 90 per cent of the psychiatrists who replied either do not treat alcoholics or limit the number or type that they accept.

Those reporting treated a total of 716 patients in the year preceding this study, one-half of one per cent of the estimated 150,000 alcoholics in Los Angeles County. The patients here reported included those from all sources, such as state hospitals, clinics and private practice. Hence the treatment of such limited numbers cannot in itself influence the total problem very much. However, it must be remembered that psychiatric techniques have infiltrated into the methods used by many other groups having contact with alcoholics, including psychologists, social workers and social scientists.

Most alcoholics who have received psychiatric treatment have obtained it through hospitals or

• *The one approach most favored for alcoholism by psychiatrists in Southern California who answered a questionnaire is membership in Alcoholics Anonymous. Ninety-nine per cent of them approved Alcoholics Anonymous, and 80 per cent had referred patients to the organization. Yet they believed only 10 per cent of the persons who join A.A. remain sober for over two years. This against the claim of A.A. that 60 per cent or more of their fellowship are recovered emphasized the pessimism of the psychiatrists questioned.*

Ninety per cent of the psychiatrists who replied said they do not treat alcoholics or that they limit the number or the type they will accept for treatment. They obtain recovery, they said, of 10 per cent of patients, improvement of 50 per cent, and the rest are unchanged.

The emphasis in psychiatry is on elimination of the anxieties leading to alcoholism; in Alcoholics Anonymous the emphasis is on the strength to bear these anxieties. Ninety per cent of the replies received were in favor of clinics for alcoholics, and the respondents felt that governmental agencies should support these clinics. Under such circumstances psychiatrists would combine their abilities with psychologists, social workers and Alcoholics Anonymous. Thirty-five per cent of psychiatrists said they are willing to work in a clinic, the majority without recompense.

through a very small group of psychiatrists in private practice. Thus only 10 per cent of psychiatrists treated over 80 per cent of all the alcoholics who were treated by the psychiatric profession. This appears to be part of a trend toward creation of a specialty in the treatment of alcoholism. With the encouragement of suitable facilities, such specialization could make important contributions to the problem.

Alcoholism as a form of deviant behavior is acknowledged to be within the sphere of interest, study and treatment of psychiatrists. Yet the contact of psychiatrist and alcoholic is often more a sporadic occurrence than an accepted factor in our system of psychiatric therapy. A few psychiatrists are in clinics, or on services in which they do not come into

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contact with alcoholic patients, but a large proportion of them deliberately avoid the treatment of alcoholics. The nature of this "symptom"—and psychiatrists consider it a symptom rather than a disease—is the most important determinant. During the alcoholic bout, the whole personality of the alcoholic is engulfed, and the rational part of the ego, which alone has the capacity to observe and judge his behavior, is swept away. An alcoholic presents even more difficulty than a psychotic person, since the latter's lack of contact is not due to a toxic state and he can be reached by a variety of techniques. Frequently enough, a psychiatrist makes progress with an alcoholic patient who may seem to be on the verge of an important insight. Then comes a monumental binge, extensive acting out that destroys the possibility of further therapy, and the psychiatrist sees his investment of time and energy wasted. The tolerance to stress is often so low that even slight increases in tension may precipitate the lost weekend. Many psychiatrists will have had the experience of observing an alcoholic who feels so guilty after a bout that he must drown this voice of conscience in another alcoholic episode. After a few disappointments like this, psychiatrists often revert to the treatment of "normal" neurotics. Even if the symptom could be controlled in some way, and the alcoholic kept sober during the course of treatment, his very immature type of personality often presents insuperable problems. Antabuse,[®] which has been a boon to alcoholics who have been highly motivated, often emphasizes, by the occurrence of psychoses, psychopathic behavior, and personality changes, the severe character disorder underlying the alcoholism. Prolonged hospitalization is frequently advised, but at best it is uneconomic and, at worst, useless to the patient as far as therapy is concerned. It seems so patently absurd to keep a rational appearing and rational acting patient incarcerated, that often the psychiatrist aligns himself with him, and he is discharged to an almost certain repetition of his behavior. These are some of the factors that explain why it is that psychiatrists treat so small a percentage of alcoholics.

Nevertheless, psychiatrists appear convinced that psychotherapy is the proper approach. For example, 85 per cent of them use insight therapy—a difficult and time-consuming type of psychotherapy, that is aimed at giving the patient understanding and, finally, resolution of the emotional problems which led to the alcoholism. Perhaps there will be a greater gain than that of individual treatment, itself, that will come from this laborious work of insight therapy (and psychoanalysis is a specific type of insight therapy)—perhaps a more intensive

and broader knowledge of the psychopathology of the alcoholic patient.

Psychiatrists show little enthusiasm, on the whole, regarding their therapeutic results. They reported a little over 10 per cent of patients recovered, but over half of the psychiatrists replying reported no recoveries whatever. Improvement occurs in about 50 per cent of the patients, say the psychiatrists, and about 40 per cent are left unchanged. It is difficult to evaluate what this means, other than that the psychiatrists believe they obtain such improvement rates. Valid standards of recovery and improvement have by no means been established. While abstinence can be considered a definite criterion, and a measurable one, it was obvious, from the nature of the replies, that such abstinence is not always the goal of therapy. Many psychiatrists feel that improvement in adjustment is a more valid gauge than total abstinence. Considerable caution is necessary, however, since one can easily delude oneself into claiming improvement because of a better marital status, while the patient becomes insolent to his bosses and is fired from one job after another. Perhaps there is an important lesson here that psychiatrists have failed to learn, and that other groups such as the religious groups and the fellowship of Alcoholics Anonymous have rightly emphasized—namely, that complete and total abstinence comes before any attempt at rehabilitation. A psychiatrist sometimes, in order not to discourage the patient from seeking help, may give an ambiguous answer to a patient's question as to whether he will be able to drink normally in the future. Such normal drinking involves a basic change in the personality, most difficult to achieve. Yet some therapists persist, consciously or unconsciously, in their efforts for the "complete cure," to their disappointment in therapy and to the detriment of the patient. How to reconcile the attitude of prohibition, which implies disapproval, with an attitude of tolerance and acceptance, is one of the psychotherapist's major dilemmas. Often a situation quite divorced from reality develops, where the therapist heroically, with the correct sympathetic but objective attitude, tries to work with a befuddled, bleary-eyed, weaving patient, who has somehow faithfully attended his therapeutic session. It may be that, with our current knowledge and capacity, the psychiatrist should be content to attain an arrest of symptoms, rather than the hypothetical complete cure.

It is interesting to compare the findings in this study with those of Lemere's⁵ valuable report on the life history of alcoholics. He found that 13 per cent of alcoholics spontaneously became able to drink in moderation; or became abstinent, on their own or under the influence of religious conversion.

One per cent stopped drinking because of medical treatment, but this was before the era of the newer techniques. If all of these categories are included as recovered, the 10 per cent recovery rate reported in the present study is less than the spontaneous rate. However, 86 per cent in Lemere's study showed no improvement, and assuming that all the improvement claimed by psychiatrists answering the questionnaire is valid, it can be concluded that many patients are helped who would not otherwise obtain relief.

Upon more detailed study of the therapeutic results reported, it was noted that the recovery rates cited by different psychiatrists varied from zero by some to 80 per cent by others; the improvement rate from zero to 100 per cent; and the number reported unchanged also ranged from zero to 100 per cent. Why is there such great disparity in therapeutic success? Since psychotherapy, the method of choice of psychiatrists, has no standard technique, and since it is dependent on complex emotional factors both in the patient and in the therapist, some disparity in results can be expected. So great a variability, however, must go far beyond such factors; far beyond the inevitable difference between the optimist and pessimist, psychiatric variety, and even beyond the lack of valid criteria for improvement. It is possible that the appraisal of psychiatrists' opinions becomes so chaotic because of the conflicting emotional attitudes of psychiatrists toward alcoholic patients.

The alcoholic drinks because he seeks pleasure, and because by drinking he avoids pain. Our psychiatric attitude to the alcoholic varies according to which aspect of the alcoholic is emphasized at a given time. If we picture the alcoholic as a tortured soul, desperately seeking an escape from an intolerable conflict, we are inclined to be helpful and sympathetic. If we see him as an irresponsible playboy, indulging in Bacchanalian revels, we are determined, perhaps unconsciously, to let him suffer his sinful fate. Especially is this true, if we too harbor similar but carefully concealed impulses within ourselves. It would be naive to disregard such considerations as factors in the rejection of alcoholics for treatment, and as elements in the attitude of therapeutic pessimism. The comments of the respondents bear out the two polarities in attitude. Some showed sarcasm, contempt, defeatism, impatience; others indicated tolerance, sympathy and an objective psychiatric attitude. Occasionally a certain over-enthusiasm, suggestive of reaction formation, appeared in some of the responses.

And now, having criticized ourselves in relation to the patient, let us criticize ourselves regarding

our attitude to hospitalization of alcoholic patients. Forty per cent of us do not know how to secure admission of a patient to a state hospital, and 60 per cent have never arranged such admission. This widespread ignorance of the resources available to deal with the problem is the natural outgrowth of our attempts to ignore the alcoholic in the community. We, in turn, criticize the method of handling commitments to state hospitals. Almost half the psychiatrists consider admission procedures unsatisfactory, and the most numerous complaints center around the lack of provision for voluntary admission of alcoholics to state hospitals.

Easy voluntary admission, with discharge only on the recommendation of the hospital physician, is the most frequently requested change. About 40 per cent of the psychiatrists reporting had had patients who were refused admission to state hospitals, and their comments indicated that they felt this refusal was arbitrary and unjustified, and that the legal procedures or the way they were administered were grossly defective. There has been progressive difficulty in obtaining commitment for alcoholic patients, and the reasons given by the courts have often been quite vague or dependent on the opinion of the court as to whether the patient might or might not benefit. Many respondents felt that admission depended upon the idiosyncrasy of the judge, rather than a consistent interpretation of statutes or community needs.

In certain respects the psychiatrists showed much difference of opinion. About 60 per cent of the respondents approved of legal commitment, even where the alcoholics were not immediately dangerous to themselves or others. Many felt alcoholics were "incompetent" to make such decisions themselves, or to handle their own affairs. The other 40 per cent of the psychiatrists answering the questionnaire felt that legal commitment was an unwarranted interference with the liberties of alcoholics, that such power of commitment could be abused, and that lack of effective therapy made commitment unreasonable. About 25 per cent of the psychiatrists felt that hostility and absence of co-operation would be the inevitable result of coercion, but 75 per cent said that treatment could be successful in spite of enforced hospitalization. Some respondents specifically mentioned that incarceration was often necessary, if only for the benefit of the family and relatives of the patient, as well as his social milieu.

It would be burdensome to cite statistics proving the magnitude of the problem of alcoholism. Almost anyone can readily realize, however, that it is extensive enough to constitute a public health problem,

and must be attacked on a broad scale. California, perhaps because of difficulties peculiar to its rapidly growing population, has not yet instituted an adequate program for the rehabilitation of alcoholics. There have been many investigations, sponsored by state or county, with excellent plans and recommendations, which unfortunately have not been implemented. It is to be hoped that one or more of the contemplated programs can survive the vicissitudes of legislative action and constitute a sound basis for rehabilitation efforts.

Sixty per cent of the psychiatrists said they did not have adequate facilities for private patients in hospitals and sanatoria. Even where present, such facilities are far beyond the means of the average patient. Seventy per cent of psychiatrists felt that adequate hospital facilities for alcoholic patients were lacking. This is a special problem in Los Angeles, which ranks eighteenth among the nation's cities in general hospitals, although it is one of the largest cities in the country. Furthermore, 63 per cent of the hospitals in this area are profit-seeking, as compared with 24 per cent in the country as a whole. These circumstances often make hospital beds for acutely ill patients either unavailable or too expensive, curtailing rehabilitation work at a critical therapeutic period. When the respondents reported the facilities they would prefer, 36 per cent said clinics, 33 per cent hospitals, 22 per cent sanatoria, and 9 per cent farms. When asked directly if they favored an alcoholism clinic, 89 per cent of the respondents were in favor. Those against such clinics felt they had adequate clinic resources, that there was no need, or that alcoholism should not be separated from other psychiatric disorders. The psychiatrists uniformly felt that governmental financial resources at all levels, including federal, state and county, should be utilized, and that this should be supplemented by community aid.

The attitude of the psychiatrists regarding the role of their psychiatric society to an alcoholism clinic was made quite clear in their descriptive phrases. The relationship of the society to the clinic would be, advisory, contributory, investigative, consultative, supportive, encouraging, and recommending. Assistance in staffing, in research, study and teaching, and aid in organization, were some of the ways in which the society was willing to help. Moreover, 35 per cent of the psychiatrists would give their time, a majority without recompense. It is apparent that there is a considerable amount of psychiatric talent available for the problem of alcoholism.

The one approach most favored by psychiatrists for the treatment of alcoholism is membership in Alcoholics Anonymous. Ninety-seven per cent of

the group are familiar with the methods of this fellowship, and 80 per cent have referred patients to it. Ninety-nine per cent of psychiatrists are favorably disposed toward Alcoholics Anonymous. Such unanimity is so rare that it gives rise to wonder as to the basis for it. One might expect the psychiatrists to believe that Alcoholics Anonymous' record of recoveries must be exceptionally high to warrant such enthusiasm, yet when the opinion of psychiatrists was asked, the following was the composite of replies: They felt that 40 per cent of members of A.A. remain abstinent for one year, 20 per cent for two years, and 10 per cent for over two years. Therefore there was the paradox of enthusiastic approval of the A.A. method, with a very cautious appraisal of the results. Furthermore, the psychiatrists felt that just 50 per cent of A.A. members are well adjusted. It should be noted that Alcoholics Anonymous^{2,3} claims much more favorable results, although the organization apparently collects statistics only in a casual way. "Fifty per cent of alcoholics," A.A. says, "who stay with us and really try, get sober and stay that way. Twenty-five per cent do so after some relapses, and the rest usually show some improvement." A somewhat contradictory note is sounded by the A.A. statement, "Many problem drinkers do quit A.A. after a brief contact, maybe three or four out of five." But they "have the agreeable impression that half the original exposures will eventually return, most of them to recover."³ G. Kirby Collier⁴ cited a recovery rate of 50 per cent to 60 per cent. It has been reported by the National Committee on Alcoholism⁶ that of 7,840 referrals to doctors, hospitals, clinics, and Alcoholics Anonymous, 3,057 "recovered"—that is, 39 per cent. "Recovery," in this case, meant sobriety of a year and a half to five years in duration.

It is generally acknowledged among psychiatrists that the problem of the addict is one of the most difficult that psychiatry has to contend with. Often the addicted person cannot make progress in therapy until he gives up the very addiction for which he came to therapy. This paradoxical situation exists because the satisfaction in the addiction destroys the impulse to correct it. This emphasizes the advantage of the moralistic and religious approaches: Drinking is sin; it is immediately and definitely interdicted. This leaves only two shades of morality to deal with: black and white. The alcoholic cannot delude himself when he reduces his drinking from a quart of whisky to a pint, or changes from bourbon to beer. It is all or nothing. So much the better when he does his abstaining in a group, and has the approval and praise of his confreres. The shattering of his fantasies of omnipo-

tence, the mobilization and atonement of guilt, and the construction of powerful reaction formations, are further weapons with which to hold destructive impulses in check. When to all this is added the opportunity to proselytize, and thereby keep his pathological drives in repression, the sum is a successful combination of techniques. Further study of the success of such groups as Alcoholics Anonymous in a scientific manner, may indicate the road to a method of treatment utilizing psychiatric resources and techniques.

In the meantime, the most efficient use should be made of the psychiatric resources available. The psychiatric team, which consists of a psychiatrist, a psychologist and a social worker who combine their abilities in an integrated manner, is a basic unit. It has proved eminently successful in adapting psychiatric techniques to the treatment of neuroses, to borderline psychoses and to child therapy and guidance. It is being progressively increased in scope and applied to the treatment of alcoholics in many parts of the country. It represents a broader attack on the problems of alcohol than is possible in the office of a private psychiatrist; and, through the social worker member of the team, it can reach out and influence the environment of the alcoholic. When, in addition, the resources of the hospital and Alcoholics Anonymous are available, we have a multidisciplinary approach, which promises to be much more effective in coping with the problems of alcohol addiction.

Looking at one aspect of these opinions, we might say that psychiatrists show an attitude of bewilderment, apathy and confusion and that they move in a general aura of pessimism. There is an impatience, and even contempt, because of their feelings of therapeutic ineffectiveness. At the same time, however, there is a sizable group with an eagerness to work, to investigate and to contribute their time and abilities to a solution of the problem of alcoholism. This group is by no means discouraged, and is willing to accept the challenge of the problem.

It appears from the perplexity of the psychiatrist, that the greatest need is further knowledge of the alcoholic and a more basic understanding of his psychopathologic state. This can only be acquired by an extensive and unremitting research program. Certainly psychiatrists should not attempt to oversell their capacity to ameliorate the problem of alcoholism today, and the emphasis could well be placed on clinics where research is prominently featured, along with rehabilitative efforts. There is always the impulse to influence legislators by pointing out the dollars and cents savings through "curing" alcoholics. If we avoid the temptation of claiming immediate far-reaching results, we can

better concentrate on productive long-term plans for the future.

8820 Wilshire Boulevard, Beverly Hills.

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Discussion by W. A. OLIVER, M.D., Napa State Hospital, Imola

Dr. Hayman has presented an extraordinarily interesting and perceptive paper on a subject that badly needs some airing. It is high time that we talked out loud about this paradoxical situation in which a symptom complex exists which we insist is psychiatric although to a large degree we shun the responsibility for the treatment of patients suffering from this same condition. I am sure from my own experience that the author's sampling of practice in his area well represents a cross-section of practice elsewhere. We must surely agree with the validity of the reasons for this rejection as outlined in this paper.

There are, perhaps, two others which might be pointed out. Let us first turn to the estimates of therapeutic results reported by the group who were sampled. These show an astonishing range in some categories—as much as from zero to 100 per cent. One of the reasons for this is the lack of clarity in the formulation of goals of treatment, as has been so aptly expounded by the author. The other is the notable lack of reliable, long-range, independent assessment of treatment results.

There appear to be two common figures associated with reports of this type: 10 per cent and 50 per cent. I have frequently noticed over the years that estimates of beneficial results of a treatment for alcoholism, if made by the enthusiasts for the program, will be 50 per cent; if the evaluation is made by others, it is usually 10 per cent.

This is one of the chief problems facing the newly organized California Alcoholic Rehabilitation Commission. The chairman, Dr. Theo K. Miller, has frequently stated that the Commission cannot conscientiously proceed with the disbursement of public funds without having some evaluation of the success or lack of success of those treatment programs now in operation. Therefore the Commission has included in its budget a sum of money to pursue follow-up studies by scientific epidemiological and statistical methods of such things as state hospital programs and public clinic programs.

The other possible reason for lack of enthusiasm on the part of psychiatrists for treating alcoholic

patients is the extraordinary physical difficulties surrounding the problems of dealing with such patients. As all of us surely know, the alcoholic demands unlimited patience, often beyond the limits of ordinary endurance. The psychiatrist must be doctor, priest, policeman, and (last, but not least) nursemaid—and all of these things frequently at 2 o'clock in the morning. It is no wonder, therefore, that many private practitioners shy away from this type of case. It seems to me the answer to this is a suitable combination of in-patient and out-patient facilities, both public and private, that may be used interchangeably with a minimum of red tape to adequately handle the various situations that come up in the ordinary course of treatment of an alcoholic. That there is a definite place for psychotherapy in the treatment of alcoholism can hardly be questioned but, as Dr. Hayman indicated, it can be only effective at the proper time and when the patient is accessible.

As to hospital facilities, here again we are faced with a serious block in the way of an adequate treatment program. Most private general hospitals will not accept alcoholics and, as has been pointed out, the private sanitarium are beyond the means of most people. This leaves the state hospital; and of course the difficulties surrounding admission to the state hospital have been justly criticized. If the old con-

troversy between the medical and legal professions can be resolved and a mechanism found whereby adequate treatment can be given with suitable protection of constitutional rights, we will have traveled a considerable distance in facilitating the handling of this problem. My understanding is that this problem is almost peculiar to the United States; that is to say, we are most conscious of protection of legal rights than are European hospitals or even Canadian hospitals. Possibly, this is as it should be, but it does present many difficulties. The suggestion was made by some of those answering the questionnaire sent out by Dr. Hayman that there be a voluntary admission with release only on the recommendation of the hospital physician. This would, of course, not be possible under our present regulations. Not only the admission but the hospital stay itself is voluntary, and to detain a patient against his will detracts from the voluntary nature of the entire procedure. In some states patients may sign agreements to remain in the hospital for as long as 30 to 90 days, but I have been told that such agreements do not stand a court test.

With regard to the legal commitment, the very lack of agreement among the medical profession itself as to ways and means of improving this procedure indicates some of the difficulties faced by those attempting to draft new legislation.

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Trichomonas Urethritis in Males

ECTOR Le DUC, M.D., San Diego

CURRENT OPINION that trichomonas urethritis in males is self-limited is in error. Urologists are plagued now and again with cases in which eradication is difficult and symptoms prolonged. That the parasites will spontaneously disappear from the urethra if the man but wear a protective sheath to avoid reinfection during coitus is untenable.

Some 11 years ago the author brought about a cure of trichomonas urethritis in a man by use of a simple method of treatment. Since then the treatment has been used by the author and by other physicians and so far as is known has been curative in all cases. About 20 years ago Carbarsone® (p-carbamino-phenylarsonic acid) was introduced for treatment of amebiasis and it was soon used in suppositories for the local treatment of vaginal infestations of trichomonas vaginalis. In 1944 the author first used a suspension of Carbarsone for treating a man who had trichomonas urethritis. A report of that case follows.

REPORT OF A CASE

The patient, a 40-year-old white man, was seen in New Guinea in 1944 with complaint of urethral discharge of 20 years' duration. He had received all of the usual treatment then in use—prostatic massage, urethral dilatation, instillation of silver compounds and irrigations with permanganate and other solutions. None of these procedures had had even temporary effect on the discharge. Upon microscopic examination of material discharged from the urethra, motile trichomonads were seen and a few of these organisms were noted in a specimen of prostatic fluid.

Urethral instillations of a solution made by adding 250 mg. of Carbarsone to one ounce of sterile distilled water were carried out. With a one-fourth ounce Asepto® syringe, the urethra was comfortably filled with the solution, care being taken to avoid undue pressure, and no attempt was made to force the fluid into the posterior urethra. For a week this treatment was given twice daily, preferably after voiding at bedtime and on arising in the morning and then once daily at bedtime for one more week. The parasites disappeared within 24 hours of the beginning of treatment and none were observed thereafter although careful reexamination of the urine and of prostatic fluid was continued for two or three weeks at regular intervals.

Submitted April 22, 1955.

• *Trichomonas urethritis in the male should be suspected in all chronic cases of urethritis. The diagnosis is easily established by the hanging-drop method of examining the urethral discharge, or the first-glass urine specimen. Curative treatment is readily accomplished by the use of urethral instillations of Carbarsone suspension using 1 capsule of Carbarsone per ounce of distilled water.*

From then on, all male patients observed by the author with urethritis due to trichomonas infestation were treated by that method and in all cases the discharge abated and there was no evidence of parasites on follow-up examination. Several colleagues have used the treatment and so far as is known the results were good except in one case in which chemical urethritis developed.

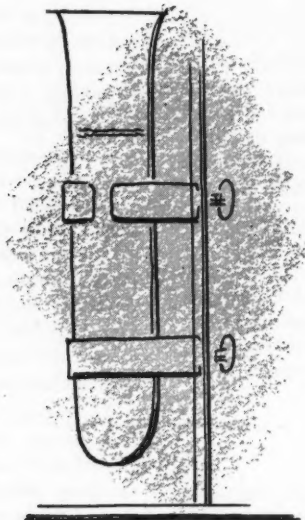
To prove the disappearance of the parasites, microscopic examination should be made of the centrifuged sediment from the first glass of the standard two-glass or three-glass urine test, and also of the prostatic fluid. An ordinary wet preparation of either is very satisfactory for this study. Special staining methods to demonstrate nonmotile trichomonads have not been used. The microscopic studies are done on specimens taken at each visit at three to four-day intervals. After treatment is discontinued, the visits are spaced at longer intervals until it becomes certain that there will be no recurrences. The sexual partner or partners should be examined or referred for examination and proper treatment, and proper protection to the partner under treatment should be prescribed. Often in the case of extramarital exposure it is necessary only to warn against further exposure.

Although the use of antibiotics has been the mainstay in therapy of urethritis of all varieties, a good deal of time will be wasted and needless expense incurred if antibiotic therapy is carried out in cases of unrecognized trichomonas infestations. In view of the curability of trichomonas urethritis, detailed studies of urethral exudate, regardless of the gross appearance, should be carried out in cases of "non-specific urethritis," for the diagnosis of trichomona infestation is simple if examination is made for that parasite. Trichomonads have been found in creamy,

purulent exudate as well as in the classically described watery or mucoid discharge thought to be characteristic of the disease. A wet smear of the discharge is easily examined with low power magnification on a microscope. If the discharge is scant, a drop of normal saline solution added to the slide is useful. The prostatic fluid and the sediment from the first glass of the two-glass urine test should also

be examined. These studies should be in addition to gram stain examination, cultures and sensitivity tests for other organisms. While the number of cases in which trichomonads are present is relatively small compared with other varieties of infection, the definitive response to specific treatment makes the search certainly worthwhile.

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Mortality Rate from Skin Cancer

EDWARD A. LEVIN, M.D., San Francisco

THIS PRESENTATION concerns the mortality rate of carcinoma of the glabrous skin, exclusive of carcinoma of the superficial mucous membranes or melanoma, the cause of death in a series of cases, and how the deaths might have been prevented. Study was made of 2,122 cases of basal and squamous cell carcinoma of the glabrous skin as observed at the Visible Tumor Clinic of the University of California in a 20-year period, 1935 through 1954, and particular analysis was made of the 35 cases (1.65 per cent) in which the patient died of cancer of the skin. Of the 35 who died 27 were males and eight females. Other analytic data are given in Tables 1 to 6.

Data as to incidence of basal and squamous cell carcinoma of the skin for California for 1953 are as yet not available. However, an estimate of the incidence rate for that year is possible based on extrapolation for the data for the year 1947, "Incidence of Cancer in San Francisco and Alameda County" compiled by the U. S. Public Health Service.* To do this, of course, it must be assumed that the San Francisco Bay Area is representative of California as a whole and that the incidence rate for 1953 was the same as in 1947. On these assumptions then, there were 7,400 newly diagnosed cases of skin cancer in California for 1953. Actually reported for 1953 were 130 cases in which the cause of death was carcinoma of the skin excluding carcinoma of the superficial mucous membrane or melanoma. This would give a fatality rate, in relation to the incidence, of approximately 1.75 per cent for the year 1953 for the State of California.

This figure is rather interesting in view of the fact that in the series of 2,122 cases upon which the present study was made the mortality rate was 1.65 per cent. While these figures may not be exact, it can be assumed that for California there is a probability that the mortality rate in relation to the incidence of skin cancer is less than 2 per cent.


One must realize, however, that the cases referred to the University Tumor Board by the various physicians from 20 different counties in California were often complicated by past therapy and at times had

• Cancer of the glabrous skin (exclusive of cancer of the superficial mucous membranes, melanoma, sarcoma and other rare skin tumors) is a highly curable disease. However, the mortality rate based on United States Public Health Service statistics for the State of California and an analysis of 35 fatalities occurring in 2,122 cases as observed over a 20-year period in the Visible Tumor Clinic at the University of California, is approximately 1.65 per cent to 1.75 per cent.

Skin cancer could theoretically approach a 100 per cent cure rate with two simple rules: Firstly, the patient should seek proper medical advice early for all suspicious growths, moles or warts. Secondly, after an exact diagnosis is made by biopsy, the first treatment given by the physician, whether surgical, chemosurgical, electrosurgical or x-ray, should be complete and adequate, for the first time is the "golden opportunity" for cure.

progressed so far that cure was not a possibility. This would, of course, reflect in the mortality rate. One cannot but feel that in the next 20-year period, with

TABLE 1.—Location and types of skin cancers that were primary cause of death.



	Squamous		Basal	
	Total	Metastasis	Basal	Total
Auricular region	9	6	3	12
Orbital region	2	2	5	7
Nasal region	4	1	0	4
Dorsum of hand.....	4	4	0	4
Foot	1	1	0	1
Leg	1	1	0	1
Face, multiple	1	0	0	1
Forehead	1	0	0	1
Malar	1	0	2	3
Nape	0	0	1	1
	24	15	11	35

From the Visible Tumor Clinic, Frances Torrey, M.D., Director, and the Department of Dermatology, University of California.

Chairman's address: Presented before the Section on Dermatology & Syphilology at the 84th Annual Session of the California Medical Association, San Francisco, May 1-4, 1955.

*These data were obtained from Lester Breslow, M.D., Chief of the Bureau of Chronic Diseases, and June Browne, Public Health Analyst, California Department of Public Health.

the education of the public and the advances in medicine, this rate will be appreciably reduced. Of course the mortality rate of 1.65 per cent already mentioned may be interpreted in various ways, but whatever interpretation might be gathered from a study of these cases statistically, the fact still remains that 35 of 2,122 patients who had carcinoma of the skin died of that disease.

The statistics from the California State Board of Health are not exact in that when carcinoma of the skin was listed as the primary or contributory cause of death, only melanoma or carcinoma of the superficial mucous membranes were excluded, but other rare conditions such as sarcoma, endothelioma and lymphoma were not excluded. While the number of these rare conditions may be relatively small, nevertheless exclusion of them would to some extent lower the stated figure of 1.75 per cent as the fatality rate of the more common squamous and basal cell type considered in this paper. More exact data than those cited are at present not available. It is hoped that statistical studies in the future may correct this defect.

One can also appreciate that the mortality rate must be much lower in the practice of an experienced dermatologist who often sees small and relatively early lesions, as well as the more extensive ones. Yet there is supposition in this, too, for unfortunately an accurate follow-up of these cases is often not available, and what may seem today's cure may ultimately turn up as a fatality.

Another factor may be that dermatologists, by training and experience in the clinical course of malignant diseases of the skin, refer patients beyond the scope of their treatment to a consultative tumor board or to a surgeon trained in operations on such lesions, or to a radiotherapist for heavily filtered radiation or to a confrere doing chemosurgery. These factors and possibly others might account for the apparently very high cure rate of carcinoma of the skin in cases dealt with by experienced dermatologists.

It is not so easy to state categorically why the 35 patients in the present series died, but many factors and circumstances can be considered. It may be that the patients waited too long before seeking medical care, or refused the treatment indicated, or did not cooperate sufficiently to complete the prescribed course of therapy, or did not report for the necessary follow-up examination after treatment, or that the carcinoma had already progressed to involve vital underlying structures, or had spread, so that the treatment finally given, although heroic, was insufficient. Perhaps the therapy used was inadequate. Perhaps the growth was treated by the physician with an electric needle without biopsy as a

TABLE 2.—Data on progression of skin cancers that caused death.

	No. Cases
24 SQUAMOUS CELL TYPE:	
Progressive without evident metastasis.....	9
Metastasized to regional nodes.....	15*
11 BASAL CELL TYPE:	
Progressive despite vigorous therapy (no metastasis)	11

*Generalized metastasis in five cases.

TABLE 3.—Prognosis in 15 cases of metastasis to nodes.

	No. Cases
Died within one year.....	11
Died within two years.....	3
Died within three years.....	1

NOTE: Three patients (not included in these 35 fatalities) with metastatic nodes alive after five years.

TABLE 4.—Duration of carcinoma before treatment first sought in 35 fatal cases.

Years	No. Cases
0 to 2.....	12
2 to 5.....	14
6 to 10.....	6
20 to 25.....	3

TABLE 5.—Duration of carcinoma at time of death in 35 cases.

Years	No. Cases
0 to 5.....	13
6 to 10.....	7
11 to 15.....	5
16 to 20.....	3
21 to 25.....	5
26 to 25.....	1
31 to 35.....	1

TABLE 6.—Age at which death occurred in 35 fatal cases of carcinoma of glabrous skin.

Age	No. Cases
40 to 49.....	4
50 to 59.....	1
60 to 69.....	11
70 to 79.....	11
80 to 89.....	6
90 to 99.....	2

benign lesion, or if an epithelioma was suspected, it was inadequately excised (laterally or in depth), or a radium plaque was applied, or x-ray therapy was given without recognition of the size of the field or proper regard to a full cancericidal dose.

There were a few instances, however, in which the duration and size of the growth were such that there seemed to be excellent possibility of cure, but despite large and seemingly sufficient doses of radiation or apparent satisfactory and adequate surgical treatment, the carcinoma continued to progress over the years and at last caused death. These instances might be explained perhaps by the term "radiation resis-

tant," or perhaps despite apparently radical operation, actually it was still inadequate.

CONCLUSIONS

What can be done to reduce the mortality rate of carcinoma of the skin? The answer lies in the education of both the public and physicians.

1. Continuation of the present program of the education of the public to seek medical care early for any suspicious skin growth. As with other types of carcinoma, the earlier the treatment, the greater the possibility of cure.

2. Education of physicians to make an accurate diagnosis by biopsy so that the patient may receive adequate surgical or radiation therapy.

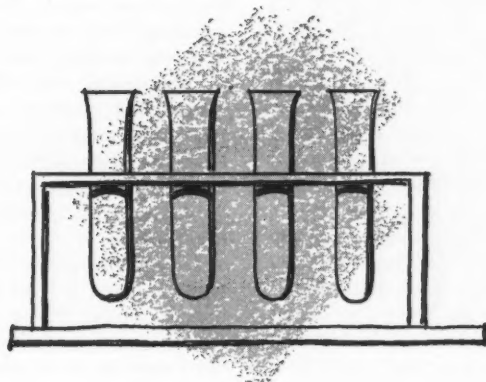
3. Education of physicians to make more use of chemosurgery, where indicated, as the initial treatment, as well as to salvage some of the advanced cases which by previous therapy, location and in-

vasion of the underlying vital facial structures make further surgical and x-ray therapy impossible.

4. Education of physicians to make greater use of the 66 free consultative tumor boards scattered throughout California, since the decision as to the most suitable type of therapy may require the combined knowledge and experience of a consultative tumor board with a pathologist, radiologist, surgeon and dermatologist in attendance.

Skin cancer could theoretically approach a 100 per cent cure rate with two simple rules: Firstly, the patient should seek proper medical advice early for all suspicious growths, moles or warts. Secondly, after an exact diagnosis is made by biopsy, the first treatment given, whether surgical, chemosurgical, electrosurgical or x-ray, should be complete and adequate, for the first time is the "golden opportunity" for cure.

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[*Special Article*]

Personal Injury Litigation

The Duties, Privileges and Responsibilities of Physicians

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PART I

AS SOCIETY becomes more complex and the frontiers of science keep ever advancing, there has come about an increasing need for and dependence upon the man of science as an expert witness in both civil and criminal actions. A jury is composed of lay persons with little or no scientific knowledge and testimony from the expert is required to assist and guide it in its search for truth. Because approximately 80 per cent of all civil cases reaching the courts involve suits for personal injuries, the physician is the expert witness most frequently employed.

Although most physicians are willing to contribute unselfishly of their knowledge and experience in the unremitting search for truth and justice, as a class they do not relish their involvement in court cases. Some leading medical specialists of this community consistently refuse to treat patients where litigation is, or may be, involved. The reasons for this disposition on the part of a few may vary from unfortunate experiences on the witness stand to the dislike of interruption of routine. Frequently a lack of understanding and appreciation of the lawyer's purpose, the rules of evidence and court room procedure have contributed to this basic distaste.

It is generally conceded that a better understanding and appreciation of the lawyer's problem will enable the physician at least to tolerate his medicolegal responsibilities.

When a physician engages to treat a patient who has been injured through the fault of another, he assumes an obligation not only to restore physical and mental health but to assist in the legal determination of the extent of injury suffered. None but the physician can supply an accurate yardstick with which to measure the amount of recovery. The performance of this duty, morally and ethically, is more compelling than that of the stranger who was an eye-witness when the injury occurred. A failure to accept this responsibility tends to undermine the confidence and trust inherent in the physician-

patient relationship, it threatens a miscarriage of justice, and furthers the economic suffering of the patient.

On the other hand, these two great professions have reciprocal obligations to each other. The lawyer is acutely aware that the physician depends for compensation upon the utilization of his time, skill and experience. He should be prepared to compensate him for each interview or medical report or court appearance, in an amount commensurate with the problem and the effort involved. In general, the courts are not profligate with a physician's time and will, to lessen the inconvenience, call him out of the normal order of presentation and at times suitable to his appointments. Rarely is a physician required needlessly to cool his heels in the courtroom corridor; and a corresponding courtesy should be given by the physician to the lawyer, who should not be required to wait long in a physician's reception room.

To understand the differences in attitude of the physician and the lawyer, it must be appreciated that the administration of justice in this country is founded on the adversary system. For this reason the lawyer is necessarily partisan. He is employed for the purpose of furthering the interest of his client and is intent upon gathering together and presenting to the court evidence that is most favorable to his cause. Where legal adversaries are equally industrious, it is expected that all of the facts, both pro and con, will be given to the court or jury. On the other hand, medicine is not a contentious profession and physicians resent being prodded by the lawyer into the position of taking sides. The physician finds himself in trouble on the witness stand more often where he plays the role of a medical advocate. A medical witness should be as objective in his medicolegal attitude as he is in the care and treatment of a patient. By maintaining a strict impartiality and objectivity the physician is best able to resist the tug and pull of opposing counsel, each of whom will endeavor to elicit from him testimony favorable to his side. To the contrary, zeal and persuasiveness are the primary virtues expected of

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a trial attorney and are as essential to his profession as is the scalpel to the surgeon. Only by the exercise of these virtues may a litigant be assured that in the prosecution of his cause no fact will be overlooked and no plausible theory remain undeveloped.

There are very few personal injury actions which may be tried without recourse to the medical expert. Where the judge and jury cannot be presumed to know the future extent and effect of an injury, medical testimony is essential. If the disability is obvious, as in the case of an amputation, such testimony would not be required to show that the injury was permanent and disabling. But where "... the injury is subjective and of such a nature that a layman cannot, with reasonable certainty, know whether or not there will be future pain and suffering, then in order to ... authorize a verdict for future pain and suffering there must be offered evidence by expert witnesses who can testify that the plaintiff, with reasonable certainty, may be expected to experience future pain."¹

Before a medical witness is allowed to testify, it must first be established that he is a qualified expert. The attorney putting the physician on the stand ordinarily will lay a foundation as to his qualifications; that is, he will ask questions calculated to disclose the witness' education, knowledge, skill and experience in the particular field of expected testimony. The opposing attorney is given an opportunity to cross-question the physician as to his qualifications in an attempt to challenge or lessen the weight to be given to his testimony. The final determination as to whether an expert is qualified lies within the broad discretion vested by law in the judge.

Medical testimony is usually of two kinds: The *facts* that are known to the physician and his expert *opinion* based upon such facts. Facts usually consist of history, complaints or symptoms, and the physician's physical findings. The expert opinion involves the physician's conclusion, his diagnosis and prognosis; or it may include other conclusions, such as whether a wound was caused by a cut or gunshot.

One of the major difficulties confronting the medical practitioner when testifying is his inability to answer categorically "yes" or "no" to a medical question. Very few medical opinions can be expressed with certainty or even with reasonable probability. At the same time the Civil Code of the State of California, Section 3283, requires that detriment must be "certain to result" before damages can be awarded for future pain or disability. The courts have recognized the fact that the medical expert can rarely state with certainty the future results of an injury and have reconciled the difficulty by permitting him to express his opinion as to

future pain or disability in terms of "reasonable probability" or even "possibility."² However, the test for the jury, or fact-finder, still remains that of "reasonable certainty" and the physician's testimony can be used as evidence thereof.

We are frequently reminded that medicine is not an exact science and, accordingly, it is within common knowledge that unanimity of opinion among physicians is seldom expected. A California case³ illustrates an early recognition of this fact. The record in that case describes the injury as follows:

... Mrs. Doolin fell on the floor of the car and sustained, besides some minor hurts, a concussion of the spine, which drew after it a train of evil consequences, such as great nervous debility, incompetence to walk without assistance, retention of urine, incoherence of speech, impaired vision, impaired memory, sleeplessness, hysterical and other effects, all of which, her counsel claimed, rendered her a physical wreck and seriously impaired her mind and memory.

Six physicians made a complete physical check-up, three acting at the instance of defendant and three on behalf of the plaintiffs. Several physicians for both sides testified that the patient had either a uterine or an ovarian tumor—then about the size of a coconut. The family physician testified that the tumor had grown four times in size by the time of the trial. Most of the physicians were of the opinion that a concussion of the spine would not produce the tumor. There was some evidence showing that Mrs. Doolin had no early signs of injury and then she had stated that she had only been frightened and made a little nervous. The plaintiffs obtained a verdict in the sum of \$20,000. At the hearing of the motion for a new trial, both sides admitted that ten days after the trial Mrs. Doolin had given birth to a child at full term, and had not been affected with a tumor at all. The court made this interesting comment:

It must be remembered in this connection that some of the expert testimony for plaintiffs tended to attribute the supposed tumor itself to the shock of the accident. Since the time of Mr. Pope it has been often inquired, "Who shall decide when doctors disagree?" The case at bar shows that gross error may lurk in their conclusions even when they have agreed; by which we mean no reflection upon the learned and very important profession of which the expert witnesses at the trial seemed to have been respectable members, for all opinion evidence is from its nature fallible to a degree beyond that of most other kinds of evidence which the law deems competent.

It may appear to a physician that the technical requirements of the law, and the interjection of objections by the attorneys regarding the admission of evidence, may tend to obscure, rather than to reveal, the truth.

In former years the physician witness frequently would be asked long-winded, hypothetical questions.

²Hagg v. Allied Chemical & Dye Corp., 122 Cal. App. (2d) 361; Bauman v. San Francisco, 42 Cal. App. (2d) 144, 163.

³Doolin v. Omnibus Cable Co., 125 Cal. 141

¹Oliviera v. Warren, 24 Cal. App. (2d) 712.

These questions assumed the truth of a multitude of facts that had been established in evidence during the trial. Hypothetical questions are seldom advisable and rarely required today. Physicians are now permitted to recite the history obtained by them from the patient, even though the facts recited have not first been put in evidence, provided such history forms some basis for the physician's opinion. For example, the fact that the patient had a headache at a certain time could be known only by the patient. The recitation of such fact by another is called "hearsay" and ordinarily is inadmissible. This history given to the doctor is admissible, not as evidence of the truth of the facts given in the history, but only for the purpose of showing the basis upon which the physician founds an opinion.⁴

No rigid rules bind the physician to accept or reject the history of his patient, whatever the source of his information. But the very skill of the physician will cause him to sense and reject such portions of the history as may seem untrustworthy. On the other hand, the triers of fact in a lawsuit are not highly skilled in rejecting hearsay and conjecture. Arbitrary rules are therefore essential in the law in order that there may be screened from the jury's consideration such information as the experience of mankind has shown to be untrustworthy. It is here that the physician should learn to understand the necessity for seemingly harsh limitations bearing upon the admissibility of evidence.

Frequently, too, the physician will find a rigorous cross-examination by the opposing attorney to be a distressing experience. A liberal cross-examination is but another means provided in the law to insure that testimony given by a witness is accurate, credible and trustworthy. It is another phase of our adversary system, by which deficiencies, suppressions or sources of error which may lie underneath the testimony may be exposed. The cross-examiner may be vitriolic and rough or gentle and suave, but his purpose is the same in all cases—to probe into and discredit if he can such testimony as may be adverse to his client's interests. He must fail in his efforts, however, if the witness has a thorough knowledge of the facts, remains calm and avoids overstatement. By remaining impartial and objective, the physician may confidently meet with the cross-examiner on safe ground, and leave the witness stand with a sense of accomplishment rather than of relief.

Fees, Costs and Risks of the Average Personal Injury Lawyer

Almost all personal injury claims are handled by the plaintiff's lawyer on a contingency basis. He is paid a fee for his services only if he is successful in

obtaining a recovery for the injured person. In most cases, the claimant's lawyer agrees to advance, subject to eventual reimbursement, whatever costs are necessary for the prosecution of the action. These costs come off the top of any recovery and before the attorney's fee (usually ranging from 20 per cent to 40 per cent of the net recovery) is computed. Among the proper costs that may be advanced by the attorney are the medicolegal fees of the medical witnesses. Medicolegal fees are those charges incurred by the lawyer for special medical reports, physician-lawyer consultations, testimony or other services required in the interests of the lawsuit and not required in the care and treatment of the patient. A physician should charge, and the lawyer should be prepared to pay, a reasonable fee for each physician-lawyer consultation; for the preparation of a specially requested medicolegal written report; for the time consumed in medical research or other preparation for court testimony where such knowledge is required for court purposes and is not that with which the physician might ordinarily be expected to be familiar; and for the time consumed at the request of the lawyer in examining additional x-ray films, reviewing reports of other physicians and of hospital records.

If the case is lost, no fees are payable to the lawyer. Furthermore, if the client is improvident, then the costs advanced on his behalf may also be lost to the lawyer advancing them. This means that many months and frequently years of time spent on a case, including both trial and appeals to higher courts, may go uncompensated. Not infrequently, expenditures for such costs, averaging from several hundred to several thousand dollars, must be written off. Thus the seemingly high fees in the contingent contract are not always a bargain to the lawyer. Physicians have sometimes expressed annoyance that the lawyer may receive, for less apparent effort, much more in fees than the physicians get. But these physicians have not realized that all cases are not won, and that the medical fee is intended to be certain, albeit collection is not always assured.

Doctor-Lawyer Consultations, Medicolegal Reports, And Testimony at Depositions and Trials

There is no legal obligation imposed upon the physician to consult with the attorney of his patient concerning the latter's injuries. Neither does the law require that a medical report be made to such attorney. The duty to do so is a moral one, and requires such cooperation and assistance as may be necessary to enable the patient to obtain proper redress for the injury. As a practical matter, in all but very few cases, physicians will consult with attorneys and will render reports concerning the patient's condition. This is the alternative to the

⁴Groat v. Watcott Co., 14 Cal. App. (2d) 350.

legal obligation imposable upon a physician through the service upon him of a subpoena. A subpoena would require him to attend a meeting for the making of deposition and there to reveal the facts of the case. Resort to this procedure is time-consuming and disruptive.

Frequently the attorney opposing the patient's claims may wish before trial to examine the patient's physician concerning the extent of his injuries and future disability. This interrogation, under oath, called a deposition, may only be compelled by means of a formal subpoena—a court order—personally served upon the physician. Such orders can be sternly enforced and it is obvious that a physician having a valid reason for nonattendance at the meeting for deposition should make his situation known to the attorney who obtained the subpoena. Illness, absence from the state, or preoccupation with operating schedules are almost invariably accepted by the attorney as valid reasons for deferment. Should the appeal to the attorneys fail, the doctor may make direct appeal to the judge of the court for relief. Seldom does a reasonable request for relief pass unheeded.

When a subpoena compelling attendance at a meeting for deposition is served, it usually means that the physician will be interrogated by and in the office of one of the attorneys. Counsel for both plaintiff and defendant are present. This is one of the forms for pretrial discovery intended to prevent the surprise of unexpected medical testimony during the trial. Depositions may also be taken to preserve the testimony of the physician should he expect to be out of the jurisdiction of the court at the time of the trial.

Depositions are not taken in the presence of the court. A shorthand reporter is in attendance, just as in the courtroom, and testimony is taken under oath. The questions and answers are later transcribed into book form for filing with the court.

Ordinarily, the attorney for the plaintiff tries to avoid having a physician for his client give testimony before the beginning of the trial, because it tends to expose any weakness in the medical case to a more searching examination or investigation, and it doubles the labor involved. This doubling of effort also affects the medical witness who must twice collect his records and his wits—once in preparation for the deposition, and once again in preparation for his trial testimony.

Some helpful hints to the doctor faced with a deposition may be set down here.

1. While the place for the deposition is usually a lawyer's office, it is often possible for the physician to persuade the lawyer responsible for the subpoena to have the place changed from the law office to the physician's office. This change should facilitate the production of the medical records and afford the least inconvenience and loss of time to the physician and his waiting patients. It usually helps the physician to be at greater ease while testifying in the environment of his own office. Seldom is such a request refused.

2. The time of day for the taking of a deposition may, in most cases, be changed to a time mutually convenient to the physician and the lawyers. Each of the lawyers will look forward to receiving from the physician unbiased but helpful testimony. At this hopeful stage, they tend to be ingratiating rather than hostile, and are inclined to extend themselves to the utmost to be accommodating.

3. If the physician is called upon for deposition to be taken by the attorney representing his patient, he must look to him, or to the patient, for his compensation. If the adversary attorney should serve the doctor with a subpoena to attend a meeting for deposition, he is under no obligation to pay any fee other than the statutory witness fee of two dollars. However, attorneys representing an insurance company customarily agree to compensate the plaintiff's physician in a reasonable sum, usually fifty dollars, for the time consumed at the meeting for deposition. If the attorney for an insurance company expresses a nonwillingness to pay for the physician's time, the attorney for the physician's patient may be willing to do so, even though no legal or moral obligation exists.

4. The physician witness should consult with the attorney for his patient a short time before the deposition is to be taken. In this way he may learn the purpose and scope of the deposition. It will also allow the attorney opportunity to pre-examine the medical records. If the records were not subpoenaed (to do so requires a special subpoena—*duces tecum*) or if the subpoena requiring their production was legally improper, the attorney may advise the physician accordingly.

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[This is Part I of an article in two parts. Part II will appear in a subsequent issue of California Medicine.]



CASE REPORTS

Relapsing Pneumococcal Meningitis

Report of a Case

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A CASE in which there were ten relapsing attacks of meningitis proved due to pneumococcus on eight occasions and the cause not proved in two instances—is presented. Included are probable examples both of recurrent and relapsing attacks.

A review of the literature concerning recurrent meningitis recently was presented by Tribiano.¹ He noted that since 1937 there have been 25 papers dealing with recurrent meningitis, and that many of the cases reported were relapse rather than recurrence. In the case here presented, it is not clear how many of the attacks represent new infections, since typing of the pneumococci was performed but once, on the first admission.

REPORT OF A CASE

The patient, a 12-year-old negro boy, was born at the Los Angeles County General Hospital, February 8, 1941. Birth was at term, was spontaneous and without trauma or complication. The patient is congenitally deaf. Early growth and development were normal except for failure to develop articulate speech. A left inguinal herniorrhaphy was done when the patient was one year of age. He had varicella at two years and rubeola at three. Subsequent admissions to the hospital are discussed below.

First Admission. On July 22, 1944, at three years of age, the patient was admitted to the hospital because of a perforating laceration of the left side of the neck which extended into the left tonsil and palate, following injury with a splinter of plate glass. Treatment consisted of debridement and closure of the wound, administration of sulfadiazine and blood transfusion. The child was discharged in six days.

Second Admission. December 16, 1944, five months later, the child was admitted to the Com-

municable Disease Unit with a history of lethargy, drowsiness and fever for four days. He had been treated at home for three days with a sulfonamide.

On admission the temperature was 103.6° F., the pulse rate 128, and respirations 30 per minute. There were pronounced signs of meningeal irritation. The child was stuporous and there was evidence of dehydration. The ears, nose and throat were normal. Coarse rhonchi and a few fine rales were heard in both lower lung fields posteriorly and in the right mid-lung field anteriorly.

Examination of the spinal fluid revealed 222 white blood cells per cu. mm., 194 of which were polymorphonuclear. The Pandy reaction was 1-plus. A stained smear of the spinal fluid showed many gram-positive diplococci, and pneumococcus type 23, grew on culture of the material. The hemoglobin was 7.0 gm. per 100 cc. and the peripheral blood contained 26,000 leukocytes per cu. mm.—88 per cent polymorphonuclear cells.

Treatment was instituted with supportive measures, blood transfusion, parenteral fluids, sulfamerazine and penicillin. The sulfamerazine was at first administered parenterally and later orally. This drug was continued for a total of 23 days. Penicillin was continued for 15 days. The clinical condition of the patient improved gradually, and within a week the temperature had returned to normal and the spinal fluid cell content had fallen. There were occasional days of fever later in the hospital stay, however; and once the temperature rose to 103° F. This was attributed to an infection of the upper respiratory tract and sulfadiazine was given for ten days. The child was discharged on February 3, 49 days after admission.

Third Admission. Three weeks later the child was readmitted with a history of right rhinorrhea for two weeks and cough and fever for one day. He was an acutely ill child. The temperature of 101° F., the pulse rate 90 and respirations 34 per minute. The vessels in both tympanic membranes were slightly engorged and the tonsils were enlarged. Upon examination of the chest, dullness was noted over the left lower lobe and the right upper lobe, and coarse rhonchi and medium rales were heard throughout the lung fields. An x-ray film of the chest was reported as showing "accentuation of the right

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Submitted July 5, 1955.

basal bronchovascular markings with an indefinite area of infiltration underlying the right fifth rib anteriorly, consistent with pneumonia." Treated with sulfadiazine, the patient recovered promptly and was discharged in five days.

Admissions Elsewhere. Between December 5, 1945, and December 14, 1951, this child was treated at the Unit II of the Los Angeles County General Hospital on numerous occasions, and was admitted 15 times. The pertinent details of these admissions are summarized below.

Of the 15 hospitalizations, 11 were for episodes of meningitis. Eight times the diagnosis of meningitis was established by examination of the spinal fluid. In the other two instances the spinal fluid was sterile. On three occasions the diagnosis of meningitis was suspected because of fever, headache, lethargy and signs of meningeal irritation, but was not established by spinal fluid examination. Each attack of meningitis was treated with penicillin and a sulfonamide, the duration of treatment varying from nine days to 53 days.

There were two admissions for bronchopneumonia and one for right otitis media. Simple right mastoidectomy was done in March, 1946; tonsillectomy and adenoidectomy and right maxillary antrotomy were done in October, 1946. Pneumoencephalography done in December, 1945, was interpreted as demonstrating "changes consistent with an early communicating internal hydrocephalus." The last episode of proved pneumococcal meningitis prior to the occasion described in following paragraphs was in October, 1950, some six years after the initial admission.

Latest Admission. On June 12, 1953, the patient, then 12 years of age, was admitted to the Communicable Disease Unit of the Los Angeles County General Hospital with complaints of headache, vomiting and fever of sudden onset less than 24 hours before admission. There was a history of recent drainage from the right ear.

Upon physical examination it was noted that the patient was acutely ill and somnolent. He was well developed, well nourished and muscular, partially deaf and inarticulate. The temperature was 103.8° F., the pulse rate 100 and respirations 24 per minute. The right tympanic membrane was retracted and had a small perforation in the posterosuperior quadrant, but there was no drainage. There was a surgical scar posterior to the right ear. Signs of meningeal irritation were pronounced. The lung fields were clear.

The spinal fluid on the day of admission had a ground glass appearance and contained 4,000 leukocytes per cu. mm.—95 per cent polymorphonuclear. Pneumococci grew on cultures of spinal fluid and blood. The hemoglobin was 11.5 gm. per 100 cc. and leukocytes numbered 21,550 per cu. mm.—95 per cent polymorphonuclear cells.

Treatment was begun with penicillin and chloramphenicol intravenously and sulfisomidine sub-

cutaneously. As the patient's clinical condition improved, penicillin was given intramuscularly and chloramphenicol and sulfisomidine orally. Penicillin was continued for 15 days, and sulfisomidine and chloramphenicol for 33 days. Examination of the spinal fluid the day following admission showed 558 leukocytes per cu. mm.—80 per cent polymorphonuclear cells. A culture of the fluid was sterile. Subsequent attempts to examine the spinal fluid were unsuccessful, owing to inability to perform lumbar puncture without general anesthesia. The patient became afebrile on the fifth hospital day and remained afebrile and clinically well thereafter.

No abnormalities were noted in x-ray films of the chest, abdomen, spine, soft tissues of the neck and the skull. Roentgenographic studies of the temporal bones were normal except that "the right mastoid cells are sclerotic; there is an area of decreased density most consistent with an old surgical defect and old right mastoiditis." In x-ray films of the paranasal sinuses, "slight haze over the upper anterior ethmoids" was noted.

Electroencephalograms were normal.

An otologic consultant rendered the opinion that a focus of infection should be suspected in the right ear, this being one of the commonest demonstrated causes, but that operation was not immediately indicated in view of the clean right simple mastoidectomy cavity.

DISCUSSION

Although pneumococcal meningitis is well known for its tendency to relapse and recur, ten attacks with recovery is rare, particularly in a child. In most reported similar cases the patients were adults.

The exact cause of the frequent relapsing attacks in the case of the child here reported was not established. However, there was ample evidence of recurrent respiratory tract infection with associated mastoiditis and sinusitis in the past history. It is likely that there was a persistent focus of latent infection in the right ear. Other frequently implicated causes of relapsing attacks of meningitis, such as skull fracture or congenital dermal sinus having continuity with the meninges, were not demonstrated.

SUMMARY

A case of a 12-year-old negro boy who survived ten attacks of purulent meningitis in nine years is presented. In addition to the ten proved attacks, there were three additional probable episodes. On eight occasions pneumococci were isolated from the spinal fluid. Twice the spinal fluid was sterile.

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REFERENCE

1. Tribiano, C. W.: Four recurrent attacks of pneumococcal meningitis with recovery, *J. Pediat.*, 42:609, May 1953.

Torsion Patterns of Chordae Tendineae in Rupture of Papillary Muscle

Review of the Literature; Report of a Case

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CARDIAC RUPTURE has probably been known since the beginning of medical literature. As the study of pathological anatomy developed, however, descriptions of rupture involving only special structures of the heart appeared. Rupture of a papillary muscle was first reported by Méral²⁰ in 1803. In the century that followed, however, only six additional cases were recorded, and one of the first reviews of this condition, by Voigt²⁸ in 1932, included only nine cases, although additional ones were then on record. The first comprehensive review of this cardiac catastrophe was prepared by Stevenson and Turner in 1935.²⁷ They collected reports of 19 cases and added one of their own. Reviews by other investigators^{1, 3, 5, 25} since that time have established a fairly characteristic clinical picture, and the antemortem diagnosis of ruptured papillary muscle was definitely made on four occasions.^{1, 3, 5, 25} and suggested on another.¹ Not all the reported cases were included in any of these reviews, however, and an exhaustive search has shown that a total of 56 examples of ruptured papillary muscle are now listed in the world medical literature.^{1, 3, 5-8, 10-13, 15-21, 23-29} The case here presented is the fifty-seventh. An additional instance of papillary muscle rupture terminally in the course of acute disseminated lupus erythematosus is as yet unpublished.⁴

REPORT OF A CASE

A 78-year-old Caucasian man, was admitted to the Glendale Sanitarium and Hospital at 12:25 p. m., October 2, 1954. He was apparently in shock, had cold skin, and was perspiring profusely; no peripheral pulse or blood pressure was obtainable.

A daughter-in-law, who accompanied the patient to the hospital, stated that about an hour earlier he was in the living room watching the world series baseball game on television (fourth and final game) when she suddenly was aware that the set was no longer on. She went into the room, found the television set turned off, and the patient on the floor, pulseless, with Cheyne-Stokes respiration, and unconscious. He had been having frequent anginal pains the previous week, and was known to have arteriosclerotic cardiovascular disease with coronary insufficiency and arteriosclerosis obliterans of the lower extremities.

The attending physician, who saw the patient at his home, gave him 8.0 mg. ($\frac{1}{8}$ gr.) of morphine



Figure 1.—Inferior surface of anterior commissure of mitral valve, showing double spiral twisting of chordae attached to necrotic avulsed papillary tip.

sulfate and sent him to the hospital by ambulance. An additional 8.0 mg. of morphine sulfate and 2 cc. of levophed in saline solution were given at once. About 45 minutes later the blood pressure was barely perceptible at 45/0 mm. of mercury. Heart tones were strong and regular at 96 per minute. About this time a peculiar cyanotic mottling was noted below the level of the sixth and seventh ribs. The condition of the patient deteriorated rapidly, and about an hour and a half after admission the respiration and heart tones again became irregular. An electrocardiogram showed auricular fibrillation and lateral ischemia. Breathing became labored and the patient died at 3:05 p. m., about three and a half hours after onset of acute symptoms. No laboratory studies were completed before death.

At autopsy the heart was observed to be enlarged, weighing 540 grams. There was left ventricular hypertrophy and dilation. The atria, the right ventricle and the valves (except the mitral) appeared normal. Cut surfaces of the myocardium showed areas of red-brown mottling in the anterior and lateral left ventricle deep to the site of attachment of the anterior papillary muscle. This muscle was ruptured in its midsection. The anterior half of the mitral valve was distorted by torsion of the chordae tendineae, which had been twisted on themselves by the tip of the anterior papillary muscle to which they were attached (Figure 1). This phenomenon was made possible by the infarction of the midsection of the papillary muscle with consequent avulsion of the tip by the mechanical trauma of cardiac contraction; this papillary tip was then apparently repeatedly thrown backward, upward, over and forward through the chordae tendineae at the anterior commissure until, after three complete revolutions, the chordae were twisted into two thick, tightly wound spirals functionally incapacitating the mitral valve so that it could neither completely open nor completely close. The lungs were moderately con-

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gested and edematous. Together they weighed 1,160 gm. Other observations were not significant.

DISCUSSION

The odd twisting of the chordae tendineae noted at autopsy in this case led to curiosity as to what mechanism might have brought it about. From a purely mechanical point of view it is apparent that two axes of rotation are possible for a fragmented tip of a papillary muscle supported by the chordae tendineae—namely, vertical rotation around the long axis of the chordae tendineae, and rotation around an axis parallel to the valve margin. In the present case the axis of rotation was the latter, and at right angles to the axis of the chordae tendineae, like the twisting arms of a gymnast “skinning the cat,” or the action of a turnbuckle. Incidentally, in subsequent study of artificially produced torsion it seemed that three complete revolutions was the greatest number of turns possible. The direction of rotation was then studied and, as described in the autopsy protocol, it was seen that this rotation was backward and upward, then forward through the chordae tendineae, and down, producing the distortion as shown. Such twisting could only be produced by the “drag” of the flowing blood on the papillary fragment. After diastolic filling of the left ventricle, the direction of blood flow during systole is away from the mitral axis and upward toward the aorta, carrying the papillary fragment to a position beneath and behind the mitral valve, the end phase of systole forcing it through the chordae at the commissure into the mitral orifice, there to be caught by the diastolic inflow, and brought forward and downward to complete the revolution. The literature was reviewed to confirm or deny this concept.

Several of the early investigators noted a queer twisting of the chordae tendineae^{6, 7, 16, 28, 29} but did not accurately record the direction of twisting, or attach significance to the phenomenon or attempt to explain it. Later investigators provided photographic illustrations, and in instances where these are sufficiently clear, characteristic double spiral twisting is frequently shown, identical to that seen in the specimen in the present case.^{3, 14, 18, 19, 26} In other studies similar twisting was more or less clearly identifiable by description.¹ (Case 2), 3, 12, 24 In Askey's report, the photograph in Case 6 appears to show a half twist in opposite rotation, but the orientation of the photograph is not entirely clear. Vertical twisting was definitely described in only one instance (Askey, Case 1). The 56 previously reported cases and the one herein described can therefore be classified as follows:

Characteristic double spiral twisting.....	6
Reverse double spiral twisting (?).....	1
Double spiral twisting, direction of rotation not stated	8
Vertical twisting	1
Twisting, type not identified.....	2
No information available.....	2
Twisting not present, or not mentioned.....	32
Incomplete papillary rupture.....	5
Total	57

The anatomy of the papillary muscles varies considerably, and in many cases is such that these torsion patterns cannot be produced. This undoubtedly explains the absence of twisting in so many instances.

Duration of life after rupture of a papillary muscle is usually a matter of hours, but a few cases in which the patient lived for some time are recorded. Although the interval before death is somewhat less in cases with torsion of the chordae tendineae, the difference is not significant. In the normal heart both papillary muscles have chordae tendineae connected with the respective half of each mitral cusp.²⁰ Therefore, in single papillary rupture there is only partial incompetence of both cusps, rather than complete functional loss of one cusp. This partial functional loss is not so severe as might be expected, owing to the support given to the loose cusp halves by the remaining intact papillary muscle and its chordae tendineae. However, when the blood flow brings about the torsion described, the chordae tendineae roll together in turnbuckle fashion, tightly drawing the cusps together, at the same time preventing complete closure. The result is mitral stenosis with fixation and incompetence, severe pulmonary congestion and edema, and systemic anoxia.

SUMMARY

A case of rupture of a papillary muscle is reported and reports of 56 cases in the world literature are reviewed. In 18 of these 57 cases (32 per cent), there was twisting of the chordae tendineae of the avulsed papillary tip. In the case here reported and in five others in the literature, the torsion pattern was a double reciprocal spiral with a characteristic direction of revolution so that the upward arc was through the commissure and the downward arc was through the central region of the mitral orifice. In ten additional instances the torsion patterns were probably identical, but not completely documented in this respect. In two other cases there were unusual torsion patterns—one around the same axis but possibly in reverse rotation, the other apparently around a vertical axis.

This apparent consistency in torsion pattern seems to provide an additional facet of interest in the study of papillary rupture. Some degree of clinical significance is also suggested, in view of the probable aggravation of the mitral deformity and dysfunction by this peculiar mechanism.

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Intercostal Arteriovenous Fistula Following Transthoracic Retroperitoneal Thoracolumbar Sympatheticoganglionectomy

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IN A BRIEF SEARCH of the literature no recent report could be found of intercostal arteriovenous fistula following transthoracic procedures or rib fractures.

CASE REPORT

The patient, a woman 45 years of age, had bilateral, two-stage transthoracic transpleural retroperitoneal sympatheticoganglionectomy involving the third thoracic through the first lumbar ganglia including the greater, lesser and least splanchnic nerves, and half of the coeliac ganglion on each side (Shumaker procedure). The kidneys and the adrenal glands were inspected bilaterally. The approach used on both sides was resection of the eighth rib and surgical fracture of the neck of the ninth rib. This procedure was done for a chronic, progressive, cerebral type of hypertension of five years' duration.

The first stage was done October 23, 1954, on the left side, and the patient recovered in the usual time of eight days. Operation on the other side was done December 1, 1954. The patient again made rapid recovery, had a decrease in blood pressure and was given neosynephrine drip for 48 hours. The pressure response was gradual. She left the hospital on the tenth day.

On the fourteenth day, pain developed in the right lateral abdominal wall over the distribution of the ninth intercostal nerve. Severe and stabbing in nature, the pain was different from that previously felt after operation. On physical examination, no additional abnormalities were noted except a continuous to and fro bruit heard over the costal-vertebral angle in the region of the fractured ninth rib.

The sound was loud and radiated superiorly for approximately 6 inches, gradually diminishing in intensity. The bruit continued with a great deal of intensity laterally over the chest almost to the sternum, where again it diminished in volume. The pulse was regular and the rate was 85, with positional variations such as are associated with postural hypotension associated with sympathectomy. The blood pressure was 140/90 mm. when the patient was supine, 100/70 mm. when sitting and varying between 80/30 mm. and 90/40 mm. when standing. At first the patient had some ringing in the ears from these changes in position, but eventually noted no bad effects and was able to be ambulatory. On the basis of the foregoing observations a diagnosis of intercostal arteriovenous fistula was made. The heart rate was somewhat accelerated following the development of the fistula, and the cardiac pulsations in the neck seemed to be more prominent.

Upon general examination it was noted that the patient was well developed and well nourished. The body weight was 180 pounds and the height

Submitted June 10, 1955.

5 feet 7 inches. Ophthalmoscopic examination was done and some healed scarred areas in the right retinal fields and a Grade I Smithwick change in the eye grounds were observed.

The chest was symmetrical and cardiac sounds were normal. There was no impairment in resonance. The heart was slightly enlarged to the left. Bruit sounds as previously described were noted.

Erythrocytes numbered 4,500,000 per cu. mm., and leukocytes—78 per cent polymorphonuclear cells, 30 per cent lymphocytes, 1 per cent monocytes and eosinophils and 1 per cent basophils.

OPERATIVE PROCEDURE

On December 14, 1954, after intubation was carried out, combined Pentothal-Anectine and oxygen was used for anesthesia and the patient was placed in the left lateral decubitus position. The old incision was opened in the region of the eighth interspace. There were adhesions of the lung over the pleura at the incision line. The adhesions were carefully separated, but when the region of the fistula was reached, active intercostal bleeding was encountered. Bleeding was controlled by digital pressure, and the neurovascular bundle was then dissected free, both proximally and distally, and was ligated with silk. No continuous hum or bruit could be heard following the ligation. The chest was closed in layers with a No. 34 mushroom catheter placed in the tenth intercostal space. Convalescence during the postoperative phase was good.

DISCUSSION

An arteriovenous fistula was suspected because of the to and fro nature of the bruit. The type of

fixation for the surgical fracture of the rib consisted of an intramedullary bone splint about an inch long and 3 or 4 mm. in diameter. It fitted the medullary cavity of the rib edges snugly. The chest was closed in the usual way. Water trap drainage was in effect for three days.

A roentgenogram of the chest before discharge showed the rib edges approximated. Four days later, the x-ray films showed the rib fracture had separated at the ninth rib.

There are many techniques for making a thoracic incision. A rib can be resected and a rib fractured either superiorly or inferiorly. Or, without resection of a rib, an intercostal incision may be made and the ligaments at the rib facets and the transverse processes divided. This permits wide swing of the rib. Reparative fixation of the fractured rib to the adjacent rib can be done, using catgut or wire sutures to bind it to the undamaged rib, or it can be fixed with an intramedullary peg. Drilling the ends of the rib and wiring them together also can be used.

It has always seemed to the author that stabilizing the fracture is only a temporary expedient in order to obtain better mobility of the chest in the early postoperative period, and that any separation of the fracture heals well with no vascular complications such as that which occurred in this case.

This particular complication was probably produced in the present case by a dorsal slippage and proximal dislocation of the distal segment of the rib. (The medullary peg still remained in position in the distal fragment.) Then, the proximal edge of the rib fragment still being rough, it probably eroded into the artery and vein as the neurovascular intercostal bundle was pushed against it.

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California MEDICINE

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EDITORIAL

Creeping, Creeping . . .

AMERICAN MEDICINE today finds itself in the uncomfortable position of leading a battle with no supporting troops in the rear.

The battleground—Social Security.

Ever since the original Social Security law was enacted in 1935, medicine has been under the legislative gun. For the past twenty years there have been those in government who would take over the practice of medicine as a federal function. Their theory is based upon the experience in European countries and on the politically tenable theme of "the ultimate good for the most people." Medicine has been relegated, by these proponents, to the category of a public utility which cannot be allowed to operate unhampered but must be brought under governmental control if the people are to benefit from a service which, simultaneously, demands great knowledge and contains all the elements of a daily necessity.

Right now, during the recess of the Congress, medicine, the legislators and the people have the opportunity to consider anew the question: How far should Social Security go? Has this theory been given full consideration so far or does it need further study, further extension?

The case in point is a bill presented in the first part of the present Congressional session, HR 7225.

This measure came into the Congress from a committee which admittedly had not held public hearings on its provisions during this session of Congress. It then passed to another committee in the House of Representatives, which also decided that public hearings were not needed but that it should be brought out for a vote on the floor of the House of Representatives. This was voted, under a rule which forbade any amendments to the measure and limited total debate to forty minutes. As an omnibus measure, including points which no Congressman could deny as to public support, HR 7225

breezed through the House on a vote of 372 to 31. Many Congressmen admitted their opposition to many of the features of the bill but felt they must vote for the overall measure as a political expedient.

Reverting to the original Social Security measure of 1935, it is well recognized that the bill went through the Congress as a double-barrelled measure which would simultaneously provide a federal subsidy for those who were unemployed and too old to secure further employment and also remove these older people from the competition of the general labor market. While the benefits originally set forth may seem pretty innocent today, by the depression standards of 1935 they did well in taking care of a portion of the older population.

Since enactment of the foot-in-the-door bill in 1935, the Social Security Act has been subjected to many amendments. Up to 1937 the employed person covered by this legislation paid 1 per cent of his annual wages, up to a \$3,000 wage maximum, in the form of "contributions" to the Social Security Fund. (Semantically, "contributions" may easily be defined as "taxes," since the individual was forced to pay them.) Next came a boost in the "contribution" rate to 1.5 per cent, then a rise in the maximum wages to \$3,600. Then further increases, to bring today's "contribution" to 2 per cent on wages up to \$4,200 a year. Further increases have been proposed, up to a maximum of 6 per cent on \$6,000 paid by employer and employee alike and 9 per cent on \$6,000 paid by the self-employed.

Physicians have, so far, maintained themselves outside the class of self-employed individuals now included in the law. The professions of law and dentistry at first sided with medicine in this move but later gave in and consented to being included as self-employed beneficiaries of this law.

In 1950, the Congress adopted further amendments, to provide for the "freezing" of "contributions" during periods of disability. While this amendment was at first passed along with another

amendment which made it, for a time, ineffective, later a Republican majority put it firmly into effect. Physicians were inched further into the federal control of medical practice by being put under regulations to govern their certification of the disability of claimants. For more than a year, physicians throughout the country have been following federal regulations in this field of their practice.

Now comes HR 7225, a bill which will further extend the disability provisions of the present law, will reduce the minimum benefit age for women under the Social Security Act and will include additional groups of self-employed persons (but not physicians) under the terms of the law. Further opportunity for governmental dictation to the medical profession is once more offered. The sections of the proposed law dealing with the totally and permanently disabled, those dealing with medical certification, again give Washington the chance to tell you, doctor, how you shall or shall not determine human disability. And, in the event your decision does not jibe with Washington's dictates, your decision may be overruled by bureaucrats whose knowledge of medicine may be narrow but whose grasp of political expediency is firm.

Thus the Social Security forces in government add one more attack to the broad base of governmental infiltration of medical practice. The powers of this section of our bureaucracy are now added to the pressures of the military forces, with their demands for more and more care for military dependents, and the veterans' representatives with their theory that any person who has worn Uncle Sam's uniform for thirty days is thereafter entitled to almost everything but especially to free medical and hospital care.

Medicine today stands as almost the sole defender of the old American right of self-dependence. Business has fled this front in the face of ever-increasing demands for security and welfare, paid for by the boss. Law and dentistry have defected in the face of the "inevitability" of all-inclusive Social Security. Medicine alone has denied this very inevitability and has chosen to face out the issue and

to preserve, if possible, this one last crumb of independence, self-reliance and open opportunity.

The one glimmer on the horizon right now is a nationwide movement which would establish a committee of representative and respected citizens which would demand a thorough review of the entire Social Security system. What, they will ask, has happened to the billions of dollars poured out in involuntary "contributions" to the Social Security Fund? Is it true that these funds have been converted into federal IOU's for which additional taxes must be paid if beneficiaries are to receive what has been promised them? Does the beneficiary hold a contract, or is he merely relying on a promise made to him by the umptieth session of Congress? Is it true that the liabilities of the Social Security Fund are \$300 billion, against which only \$21 billion is held in trust, even in the form of federal IOU's? Is it true that this fund has been handled in a manner which would violate all state laws and would result in the directors of the fund being sent to penitentiaries?

These are some of the questions which should be asked—and answered. Many of them are academic, since the terms of the present laws are well known. But, does the American public know the right answers? Does the workingman who finds his take-home pay reduced by mandatory "contributions" know what has happened to his money? Does he have any assurance that a later session of the Congress will not write off his interest in these funds and leave him even worse off than he was before 1935? What happens to all those dollars he has put into this fund for the past twenty years? Or does he just pay more taxes to repay himself for what he has already paid?

Medicine stands in the forefront today of this inquiry into sound government. The news of nationwide organization to aid in this inquiry is indeed comforting. Creeping socialism has no place in the American scene and should be stopped forthwith. Medicine appears to have its role well outlined if the American people are to be given a fair return on their investment and a clear definition of where their own responsibilities lie and those of government begin.



medical review

and advisory board

OF THE CALIFORNIA MEDICAL ASSOCIATION

The Development of the Board

JOSEPH F. SADUSK, JR., M.D., Oakland

THE GROWING PROBLEM of non-meritorious medical malpractice actions against physicians in California, together with a rapidly increasing premium rate for insurance coverage for judgments against physicians and the high incidence of such claims in California, led to the appointment of an *ad hoc* Committee on Malpractice Insurance by the Executive Committee of the California Medical Association in August, 1954. This committee consisted of Joseph F. Sadusk, Jr., M.D., Oakland, chairman; Wilbur Bailey, M.D., Los Angeles, vice-chairman; David O. Harrington, M.D., San Francisco, secretary, and members as follows: H. I. Burtness, M.D., Santa Barbara; Albert Currlin, M.D., Milpitas; John Ellis, M.D., Taft; Paul W. Frame, Jr., M.D., Sacramento; Verne G. Ghormley, M.D., Fresno; Carl M. Hadley, M.D., San Bernardino; J. J. Heffernan, M.D., Stockton; Joseph J. O'Hara, M.D., San Diego; William F. Quinn, M.D., Los Angeles; Denver D. Roos, M.D., Corona; Bernard Silber, M.D., Redwood City; and John Wood, M.D., Anaheim. Mr. Howard Hassard was appointed legal counsel and Mr. Rollen Water-son administrative consultant.

The directive of this committee was broad in scope. Instructions were given to make a thorough review of the medical malpractice claim problem as it then existed in California, and elsewhere as time and conditions permitted. The committee was asked to review the present coverage by insurance carriers in this field throughout the state and, finally, to present concrete recommendations to the C.M.A. Council for the future.

In October, 1954, the committee, which was representative of opinions throughout the entire state, quickly reviewed the problem. An executive group of the committee was appointed and instructed to

prepare in detail a survey of medical malpractice insurance coverage in California, taking into special consideration the group programs, the extent and type of coverage, and whether or not the coverages at present given were acceptable to the physicians. At a later date, the chairman was instructed to review and report to the committee on the function and status of the group program in New York State. That program is the largest in the United States, covering approximately 14,000 physicians.

At a later meeting, the committee reviewed in considerable detail medical malpractice insurance coverage now available in California. There appeared to be basically two group programs: One was the northern California program, which was followed in an area bounded on the south by a line drawn north of Bakersfield and on the north by the Oregon border. It comprised some 20-odd counties. The other was the Los Angeles County Medical Association program. In the northern California program, one carrier, the American Mutual Liability Insurance Company of Boston, covered the entire area. In Los Angeles County at that time there were three approved carriers. Some nine to ten thousand members of the California Medical Association came under a group program for medical malpractice insurance. The remaining members in the state, particularly in southern California, were covered as individuals by a number of carriers, principally the so-called National Bureau Companies (Hartford, Travelers and Aetna).

The situation with regard to coverage was found not to be good. There were a variety of policies with different exclusion clauses; some of them were quite unsatisfactory. In addition, some of the carriers, particularly some of those which covered physicians individually, required so-called "package deals": The physician had to buy all types of insurance from the company in order to obtain malpractice insurance. Instances were reported of physicians of known integrity and professional

ability being unable to obtain malpractice insurance coverage at any price. The premiums varied greatly. Most insurance carriers had progressed to the point where the difference in hazard between surgical and nonsurgical coverages was well recognized, resulting in a differential rate. It was found that premiums for the basic \$5,000/15,000 coverage ranged anywhere from \$50 a year for nonsurgical work to as high as \$282 for an anesthesiologist desiring coverage for caudal and spinal anesthesia. For surgeons in certain so-called hazardous fields such as cosmetic plastic surgery, the premium for the basic \$5,000/15,000 was as high as \$289 in one area. In another area premiums for an anesthesiologist exceeded \$800 a year for \$100/300,000 coverage.

The acceptance of the insurance policies by the insured and the attitude of the physician toward the carrier varied greatly within the state. In some areas, physicians were well satisfied, and claims adjustments were considered excellent; in others the handling of claims by the carriers was reported to be unsatisfactory. In some instances the insurance companies were dissatisfied because of lack of cooperation by the physician.

The committee learned that premium rates had been increasing yearly not only in California but elsewhere in the United States and also in Canada. Premiums were found to have trebled since 1946 in some areas; in some they had quadrupled.

The committee came to the opinion that the factors leading to high premium rates in California were:

1. Inflation, necessitating higher payment for claims, judgments and defense.
2. The increasing tendency of the public to seek financial remuneration for imaginary or real damage, and for failure in diagnosis and treatment.
3. The increasing tendency of juries to award high judgments.
4. Unfavorable articles in lay magazines dealing with alleged malpractice, fee splitting, etc., and even the favorable articles which led the layman to believe that a less than perfect result is evidence of negligence.
5. Fee complaint problems which led to claims or suits filed to evade payment to the physician for his services.
6. Inherent hazards in certain fields of medicine, particularly in the surgical field.

Thanks to certain of the insurance carriers providing malpractice insurance coverage in California, data were obtained on premiums collected and losses paid out during the years 1946 through 1951. These data were carefully analyzed by the com-

mittee. It was found that in no instance in the state was there evidence that companies were making a profit on medical malpractice insurance; indeed, all companies showed a loss despite the rapid rise in premiums. The committee noted that this was true not only in California but in some other states. In the northern California program, the deficit was running approximately one million dollars a year; in New York State, it was found to be a matter of record that the group program was running a deficit of over three million dollars.

The chairman reported to the committee on his survey of the New York State program which had begun operations in 1921. This program was set up as a division of the New York State Medical Society. A committee, termed the Malpractice Insurance and Defense Board (consisting of a physician chairman, a physician vice-chairman, and five physician members) regulated the program with the assistance of a full-time executive secretary and a legal counselor. Approximately 14,000 physicians held insurance certificates in this program. The Board was responsible for negotiating premiums, for setting of broad policy for the defense of cases, for monitoring an educational and prevention program. It had disciplinary powers with respect to those physicians who committed repeated and flagrant acts of malpractice.

In April, 1955, as a result of careful review of medical malpractice insurance in the State of California, New York and elsewhere, the California Medical Association's *ad hoc* Committee on Malpractice Insurance recommended the following to the Council of the California Medical Association:

1. The creation of a group state program in California, embodying the good principles of the New York State program and the good principles of the northern California program at county level. It was recommended that there be a committee offering advisory services at state level, with actual functioning services to be provided at county level. Each county would have its own authority to select an insurance carrier and to regulate its own program.
2. The organization, at the state level, of a Medical Review and Advisory Board. This Board would be a component division of the California Medical Association and subject to the Council of the C.M.A. The Board would be served by a part-time executive secretary. This board was to consist of a physician chairman and approximately nine physician members. Also assigned to the Board would be legal counsel and an actuarial consultant. The executive secretary would carry on the day-to-day functioning of the Board.
3. Assignment to the Board of the following responsibilities: (a) assisting the counties with the

negotiation of policies and premiums; (b) setting of broad policy for the handling of suits within the state; (c) reviewing all anticipated appeals of lawsuits and approving or disapproving transfer of such suits to the appellate courts; (d) continuously receiving and analyzing data from the county programs on cost, distribution, type and causes of malpractice cases; (e) developing and monitoring an educational and prevention program; (f) continuously receiving the malpractice records of physicians and making a review and advisory service available on request to county committees on the acceptance of physicians in group programs, the modification of their coverage, or their rejection from a program.

It was recommended that the *ad hoc* Committee on Medical Malpractice Insurance be dismissed and that the Medical Review and Advisory Board, as noted above, be set up permanently to carry on a state program.

As a result, in May of 1955 the House of Delegates of the C.M.A. approved the council's recommendation for the setting up of a Medical Review and Advisory Board as defined above. A budget of \$17,000 for the first year's operations was likewise approved. The board was set up as follows:

	<i>Term expires</i>
JOSEPH F. SADUSK, JR., M.D., Chairman, Oakland.....	1958
WILBUR BAILEY, M.D., Vice-Chairman, Los Angeles.....	1956
HOWARD W. BOSWORTH, M.D., Los Angeles.....	1956
H. I. BURTNESS, M.D., Santa Barbara.....	1956
PAUL W. FRAME, JR., M.D., Sacramento.....	1958
VERNE G. GHORMLEY, M.D., Fresno.....	1956
CARL M. HADLEY, M.D., San Bernardino.....	1958
JOSEPH J. O'HARA, M.D., San Diego.....	1957
REES B. REES, M.D., San Francisco.....	1957
BERNARD SILBER, M.D., Redwood City.....	1957

Legal Counselor: HOWARD HASSARD

Actuarial Consultant: JOSEPH LINDER (Wolfe, Corcoran and Linder)

Executive Secretary: ROLLEN WATERTON

The Medical Review and Advisory Board has had two meetings. It has received a report of Mr. Joseph Linder, the consulting actuary, and has reviewed and edited the specifications as prepared by Mr. Howard Hassard, the legal counselor. The specifications (which are presented in full at the end of this article) provide in very broad terms for the following:

1. A state-wide coordinated medical malpractice program administered and directed by the county medical societies at county level with a "safety" (prevention) program at the same level, and with advisory services offered at state level by the Medical Review and Advisory Board.

2. Complete financial and professional loss data to be collected for the state by the Medical Review

and Advisory Board as the basis for a realistic annual recalculation of premium.

3. Specific data to be available for statistical analysis of losses by type of practice and by type of loss.

4. Reserves set aside by the carrier for each claim to be a matter of record in the Medical Review and Advisory Board files and the record to be available to each county medical society.

5. The cost of administration and carrying through of the safety program at county level to be provided for out of premiums.

6. Medical Review and Advisory Board expenses to be financed through the C.M.A. state budget.

In addition the Board voted to request the editor of CALIFORNIA MEDICINE to have a more or less regularly recurring section in that journal for the Medical Review and Advisory Board. The purpose of this section will be to educate and inform physicians of the status of malpractice problems within the state as the program develops.

In order to expedite the collection of statistical data, the California Medical Association will ask all carriers of malpractice insurance in California to cooperate by supplying data on losses to the Medical Review and Advisory Board from January 1, 1955, onward.

These recommendations, along with the final draft of the specifications for a state-wide malpractice program, were presented to the C.M.A. Council on August 28, 1955, and approved by that body on the same date. Copies of the specifications and recommendations have been mailed to the constituent county medical societies of the California Medical Association, and each county medical society will be provided with copies for each member if it wishes to mail out such copies.

It is important to reemphasize certain of the basic policies of the Medical Review and Advisory Board. First, it should be stressed this is a truly *advisory* board. Insurance and policies will *not* be sold by the Board. The program is to be handled entirely at the level of each county or in any combination of county societies as they may wish. The expenses for the Medical Review and Advisory Board will not come out of the physician's premium dollar. Such expense as is necessary to finance the functions of the Board at state level will come from the budget of the California Medical Association. These expenses will be published yearly in CALIFORNIA MEDICINE for the information of all physicians, and it has been recommended to each county medical society that the expenses for the administration of the programs at county level be likewise published in the county's medical bulletin. Each physician

then will be able to determine how much of his premium dollar is being paid out for the administration of the program, the support of the county Medical Review Committee's work in analyzing each malpractice claim, and the cost of the safety or prevention program.

Recommendations and Specifications to County Medical Societies for a Group Malpractice Insurance and Prevention Program*

The following set of specifications has been adopted by the Medical Review and Advisory Board of the California Medical Association as a guide to county medical societies in the establishment and maintenance of group malpractice insurance and prevention programs. The specifications are for the type of program recommended by the Medical Review and Advisory Board and the Board will fully cooperate with programs that meet them.

EACH SPECIFICATION IS INTENDED TO STATE A GENERAL PRINCIPLE AND NOT AN INVIOABLE RULE. Certain minor variations to take into account local conditions may be necessary and will be recognized by the Medical Review and Advisory Board.

1. Nature of Program:

A county society malpractice insurance and prevention program should include:

A long-term contract with an insurance carrier (minimum 5 years—10 recommended).

The establishment and active operation by the county medical society of a Medical Review Committee responsible for

(a) Investigation, review and recommendations regarding the medical aspects of each malpractice claim or suit arising in the county, such investigation and review to be strictly on a merit basis with the interests of both patient and physician accorded equal protection and the committee's recommendations to be available only to it, the group insurance carrier, defense counsel, and the physician against whom claim or suit has been made, and

(b) Carrying on a continuing educational program within the Society regarding the legal responsibilities of physicians, the causes of malpractice claims and suits, and the steps that may be taken to avoid them.

2. Selection of Insurance Carrier:

An insurance carrier should be selected on a merit basis, but only those carriers which meet the following criteria should be given consideration:

(a) The carrier should be licensed by the California Insurance Commissioner, or permitted by California law to write contracts in this state as a surplus line insurer,

(b) It is desirable that paid-in capital and unassigned surplus of the carrier should be at least ten times the aggregate annual gross premiums paid by all physicians in the Society for the immediately preceding year or \$5,000,000.00, whichever is greater,

(c) It is desirable that such capital and unassigned surplus should be held by the carrier in investments in the United States,

(d) Carriers with previous experience in the group malpractice field should be preferred over those with no experience at all.

3. Type of Contract:

The contract should contain a broad definition of the acts or omissions insured against, e.g. all claimed malpractice, errors or mistakes, breach of implied contract, assault, battery, slander, etc.

Settlements without the written consent of the insured physician, or the Society should be prohibited.

There should be no exclusions as to the obligation of the carrier to defend, and the only exclusions from the carrier's obligation to indemnify should be criminal acts or acts undertaken by the physician while under the influence of narcotics or alcohol.

Certificates issued under the master contract should not be subject to cancellation except as hereinafter specified.

4. Cancellation:

The master contract should permit outstanding certificates to be cancelled only with the mutual consent of the Society (acting through its committee, or, upon request, the California Medical Association's Medical Review and Advisory Board) and the carrier. If the Society so desires, the contract should provide that in the event of recommended cancellation, the physician involved, the Society or the insurer may appeal to the C.M.A. Medical Review and Advisory Board, whose decision shall be final. The carrier should be obligated to issue renewal certificates to all Society members who have paid the appropriate premium and whose certificates have not been cancelled under the above procedure.

5. Limits of Liability (Amount of Coverage):

Limits of liability should be available in an amount of not less than \$100,000 per person and \$300,000 per contract year. The minimum coverage written should be not less than \$25,000 per person and \$75,000 per contract year for practicing physicians and \$5,000/\$15,000 for physicians engaged in full time postgraduate education (generally known as resident

*Approved by the Council of the California Medical Association, August 28, 1955. Amended November 11, 1955. Approved by C.M.A. Council, November 12, 1955.

house officers). Each physician should be permitted to select coverage limits in the standard brackets of \$25,000/\$75,000, \$50,000/\$150,000, \$75,000/\$225,000, \$100,000/\$300,000.

6. *Premium Rates:*

Rates should be adjusted annually, should be in effect from September 1 to August 31 and should be based on all pertinent experience data up to December 31 of the preceding year. Rates may vary by county or by rating classes within a county, each rating class consisting of one or more types of practice.

At least six months prior to the commencement of each contract year, the insurance carrier should submit to the Society its proposed rate structure for the ensuing year and should also submit to the Society all data and statistics on which its proposed rates are based. At least four months prior to the commencement of the contract year, the Medical Review and Advisory Board will, if the Society so desires, assist in the negotiation of the proposed new rates.

7. *Defense of Claims and Suits:*

(a) The carrier should satisfy the Society that it has an experienced and adequate investigation staff.

(b) Defense counsel should be mutually selected by the carrier and the Society after consultation with the Medical Review and Advisory Board of the C.M.A.

(c) The carrier should agree that, upon request of the Society, its investigation system and general handling of claims and suits shall be subject at all times to inspection and review by a designated consultant representing the C.M.A.'s Medical Review and Advisory Board.

(d) The carrier and the Society should agree that final decision as to the taking of an appeal in any case in which an adverse final judgment has been rendered should be made after consultation with legal counsel for the C.M.A.'s Medical Review and Advisory Board.

8. *Records and Statistics:*

(a) The carrier and the Society should agree that within a reasonable time after the close of each month, there shall be furnished to the Society for forwarding to the Medical Review and Advisory Board summary information on exposure and premiums for each county—divided by type of practice.

At the time of the establishment of a reserve on each claim there should also be furnished to the

Society for forwarding to the Medical Review and Advisory Board a synopsis of the case including the amount of the reserve. Also, every change in each such reserve (including the amount finally paid, if any) should be reported to the Society and to the Board.

(b) The carrier should agree that in establishing a reserve or in making a reserve change for each incident, claim or suit, each such reserve or reserve change shall be set up only after consultation between legal counsel for the Society and the carrier.

(c) All data compiled by the C.M.A.'s Medical Review and Advisory Board from the information so furnished will be at all times available to the Society and the carrier.

9. *Enrollment:*

(a) Eligibility to participate in the program should be restricted to members of the Society who are approved by the Society for insurance. If the Society so desires, the contract should provide that in the event the Society refuses to approve an applicant, he may appeal to the C.M.A. Medical Review and Advisory Board, whose decision shall be final.

(b) Individual certificates issued under the master contract should be for full twelve months intervals, without a common expiration date.

10. *Disputes:*

The carrier and Society may agree that in the event of difference of opinion between them respecting such matters as cancellation of an individual physician's coverage, eligibility for enrollment, application of the experience rating formula to premiums, interpretation of contract provisions, etc., all relevant facts concerned may be submitted to the C.M.A.'s Medical Review and Advisory Board, and if so submitted its decision shall be final and binding on the carrier and the Society.

11. *Fund for Collection Costs and Safety Program:*

The Society and insurer should agree that a fixed sum per certificate in force per year should be paid by the insurer into a separate trust fund set up and managed by the Society for the purpose of a continuing malpractice safety program to reduce causes of malpractice claims and to defray routine premium collection and similar costs. Such Fund should be used for these purposes only and should be subject to audit by the C.M.A. Medical Review and Advisory Board to verify that such Fund has been expended within these purposes.

In Memoriam

BOEHMER, ARTHUR C. Died in Truckee, October 7, 1955, aged 65, of cerebral vascular accident. Graduate of the University of Illinois College of Medicine, Chicago, 1914. Licensed in California in 1917. Doctor Boehmer was a member of the San Joaquin County Medical Society.



CHRISTMAN, PAUL WILLIAM. Died in Sacramento, June 23, 1955, aged 65, of coronary occlusion. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1916. Licensed in California in 1919. Doctor Christman was a member of the Sacramento Society for Medical Improvement.



DICK, NOBLE. Died in Santa Rosa, September 26, 1955, aged 63, of pulmonary fibrosis. Graduate of the Medical College of the State of South Carolina, Charleston, 1924. Licensed in California in 1944. Doctor Dick was a member of the Sonoma County Medical Society.



HENRY, ZIBA L. Died in San Francisco, October 16, 1955, aged 83. Graduate of Starling Medical College, Columbus, Ohio, 1896. Licensed in California in 1919. Doctor Henry was an associate member of the San Francisco Medical Society.



HIXSON, A. H. Died September 16, 1955, aged 71. Graduate of Rush Medical College, Chicago, Illinois, 1914. Licensed in California in 1916. Doctor Hixson was a member of the Los Angeles County Medical Association.

NELSON, RONALD C. Died in Beverly Hills, October 31, 1955, aged 53, of coronary occlusion. Graduate of the University of Illinois College of Medicine, Chicago, 1930. Licensed in California in 1930. Doctor Nelson was a member of the Los Angeles County Medical Association.



O'HARA, FRANCIS P. Died in La Jolla, February 12, 1955, aged 52, of leukemia. Graduate of Stanford University School of Medicine, Stanford University-San Francisco, 1928. Licensed in California in 1928. Doctor O'Hara was a member of the San Diego County Medical Society.



OSBURN, JOHN NELSON NEILL. Died on Bay Island, October 11, 1955, aged 69. Graduate of the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1909. Licensed in California in 1920. Doctor Osburn was a retired member of the Orange County Medical Association, the California Medical Association and an associate member of the American Medical Association.



STONE, LEE A. Died in Fresno, November 5, 1955, aged 76, of cerebral hemorrhage. Graduate of the Kentucky University Medical Department, Louisville, 1902. Licensed in California in 1941. Doctor Stone was an associate member of the Madera County Medical Society.



WORSTER, WILLIAM W. Died in San Gabriel, October 6, 1955, aged 77. Graduate of the American Medical Missionary College, Battle Creek, Michigan, and Chicago, Illinois, 1901. Licensed in California in 1901. Doctor Worster was a member of the Los Angeles County Medical Association.



WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

Christmas in Our Communities

During the past few months, we have discussed some of the broad-scale activities of your Woman's Auxiliary, and the significance of these activities in the overall picture of the California Medical Association. This month, we would like to tell you about some of our closer-to-home activities—of some of the less spectacular ways in which your Auxiliary members work in their communities.

December offers many examples of our community work, typical of the year-around work that we do. Not all of this is in the medical field. Yet we feel that by working in our communities we may be performing our best service to the C.M.A., since one of the major aims of the medical profession is to help the less fortunate members of society.

The following will give you some idea of the ways Auxiliary members all over California are helping their communities in some measure to enjoy a happier, better Christmas:

IN SONOMA each Auxiliary member is supplying and wrapping a gift for a needy child whose name and age has been given by a local agency. Most of these children are wards of the court or outpatients from the Sonoma County Hospital. The gifts will be distributed this year at the Auxiliary's fourth annual Christmas party for such children.

IN FRESNO Auxiliary members will staff the tuberculosis Christmas Seal booths throughout the county for one week.

IN NAPA members are collecting gifts donated by various druggists and are wrapping them and distributing them to patients in Parks Victory Hospital.

IN SAN MATEO Auxiliary members are donating ornaments for the Christmas trees which they decorate annually in the wards of Mills Memorial Hospital.

IN ORANGE members are conducting a drive to collect sewing and knitting materials for patients in the geriatrics ward at the County Hospital.

IN KERN the Auxiliary has just completed payment of an \$8,000 pledge to the Greater Memorial Hospital . . . members are working with the Bakersfield Community League in many Christmas activities.

IN STANISLAUS each member is to take a brightly wrapped toy to the Auxiliary's annual Christmas dinner dance, the toys to be given to the Salvation Army for distribution in Christmas boxes.

IN SAN DIEGO the Auxiliary has a traditional Christmas project: Working with its local Welfare Department, the

Auxiliary "plays Santa" to the children in the Welfare Adoption Unit. The Christmas wish of each child is found out and filled, where possible, by Auxiliary members with the gift of a toy. To pay for the toys, members make Christmas decorations to be sold at their December meeting, at which time the toys are also displayed.

IN SAN BERNARDINO members Christmas-wrap games as gifts for tuberculosis patients in the County Hospital; send gifts of magazine subscriptions to the student nurses they are sponsoring; and contribute to "Santa Claus, Inc.," a local organization which helps needy families at Christmas time.

IN SANTA CRUZ the Auxiliary supplies and wraps small gifts for each patient in the County Hospital.

IN HUMBOLDT members will take toys to their December meeting to help replenish the toy cart at their County Hospital for Christmas.

IN RIVERSIDE the Auxiliary is supplying Christmas gifts to the Toy Loan Library of its Community Settlement House. In addition to rounding up "outgrown toys" and "duplicates," each member contributes \$1 for the purchase of new toys.

IN LOS ANGELES members in Long Beach are making Christmas dolls for needy children . . . the Southeast Branch members are raising money to make stoles for bedridden patients at Rancho Los Amigos Hospital.

IN SAN JOAQUIN members will supply and wrap Christmas gifts of clothes or toys for the boys at Fricot Home. This is the tenth year for this traditional Christmas project.

IN PLACER, Auburn members are wrapping gifts for patients at the DeWitt State Hospital, another Christmas tradition.

IN SOLANO, following its annual tradition, the Auxiliary will "adopt" a ward at the County Hospital in Fairfield and "bring Christmas" to it. Members will decorate a Christmas tree for the ward, wrap gifts for each patient, put on a Christmas party and present a gift to the ward itself for the comfort and convenience of all. The Auxiliary also contributes to "Santa Claus Consolidated," an organization to bring Christmas cheer to the needy. In addition it helps in the sale of tuberculosis Christmas seals.

We all wish you a very Merry Christmas!

A New Finance Chairman

At its fall board meeting, the Auxiliary accepted regretfully the resignation of Mrs. Dan Kilroy as state finance chairman. The new chairman is Mrs. Garvin Goble of Fortuna, Humboldt County.

Tulare County Organizes

We welcome our newest county auxiliary, Tulare, which was organized in September with 36 charter members. This brings our total of auxiliaries to 33 and our total membership to above 6,100.

NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

Dr. William F. Kaiser of Berkeley was installed as president of the Alameda-Contra Costa Medical Association at a meeting late last month. He had been vice-president during the preceding year. Dr. Grant Ellis, also of Berkeley, was installed as vice-president, and Dr. Robert Leet, of Oakland, as secretary-treasurer.

New members of the council are Drs. Harold Kay and Donald Bellamy of Oakland, Dr. Byron Royce of Hayward and Drs. Philip Ferrier, John Leland and Paul McChesney, all of Berkeley.

LOS ANGELES

Dr. Arthur A. Kirchner of Los Angeles was chosen president-elect of the American College of Gastroenterology at the annual meeting recently held in Chicago. He will assume the presidency at the annual meeting in New York in October, 1956. **Dr. Donald C. Collins**, Hollywood, was elected a trustee.

The College also announced that the first prize and a certificate of merit in its Ames Award Contest for the best unpublished paper on gastroenterology or an allied subject, written by a resident, were awarded to Dr. Robert S. Kaplan, senior surgical resident at the Cedars of Lebanon Hospital, Los Angeles.

The Eighth Annual **Midwinter Radiological Conference**, sponsored by the Los Angeles Radiological Society will be held at the Biltmore Hotel, Los Angeles, on Saturday and Sunday, February 25 and 26, 1956. A banquet preceded by cocktails will be held at the Biltmore on Saturday evening, February 25. Foreign and out-of-state speakers will include Dr. R. McWhirter, Edinburgh, Scotland; Dr. Narno Dorbecker, Mexico City; Dr. Philip Hodes, Philadelphia; and Dr. David Pugh, Rochester, Minnesota.

Reservations may be made through the conference secretary, Dr. Norval Zimmerman, 3875 Wilshire Blvd., Los Angeles 5. The Conference fee is \$20, including two roundtable luncheon meetings, and the banquet will be \$7 a plate.

The **Southwest Mayo Foundation Alumni Dinner** will be held January 4 at the Ambassador Hotel, Los Angeles. All Mayo alumni and their wives are invited to attend. Further information may be obtained from Gilbert J. Thomas, M.D., 2200 Santa Monica Boulevard, Santa Monica, telephone EXbrook 3-3761.

A special invitation to breakfast is being issued by Branch 23 of the **American Medical Women's Association** to all medical women who plan to attend the Los Angeles County Medical Association's 85th Anniversary Convention on January 3, 4 and 5, in Los Angeles. The breakfast will be January 4 at the County Medical Association Building, 1925 Wilshire Boulevard, Los Angeles. Dr. Nadina Kavinoky, recently returned from presenting a paper at the Fifth International Congress on Planned Parenthood, held in Tokyo, will be guest speaker. Reservations will be taken by a representative of the A.M.W.A. at the convention registration desk.

The **Los Angeles Society of Neurology and Psychiatry** chose as its officers for the year 1955-56, Dr. John D. Moriarty, president; Dr. James E. McGinnis, vice-president; and Dr. Henry J. Wegrocki, secretary-treasurer.

Appointment of **Dr. John Peterson** as assistant dean of the School of Medicine of the College of Medical Evangelists was announced by the college recently. A C.M.E. School of Medicine graduate of 1939, Dr. Peterson has served as clinical professor of medicine at the College for the past few years.

ORANGE

Dr. Milo K. Tedstrom of Santa Ana was elected president of the **Orange County Heart Association** at the first annual meeting of the organization held in October. Dr. Francis G. Mackey of Fullerton was elected vice-president, and Dr. L. F. Whitaker, Huntington Beach, secretary. A unit of the American Heart Association, the county organization was formed about a year and a half ago.

SAN FRANCISCO

Dr. David A. Wood, a member of the Cancer Commission of the California Medical Association and director of the Cancer Research Institute at the University of California Medical Center in San Francisco, was elected vice-president and president-elect of the American Cancer Society at the society's annual meeting in New York. **Dr. Wendell M. Stanley**, director of the U. C. Virus Laboratory at Berkeley, was elected to the board of trustees of the society.

Two fellowships are available at the Veterans Administration Hospital, San Francisco, it was announced recently by Dr. Forrest M. Willett, chief of the medical service at the hospital. The fellowships are by appointment from Stanford University School of Medicine, and each bears a stipend of \$300 per month. The appointments are for one year and will be renewable for an additional year. The applicants must be graduates of a class A medical school, with preference given to candidates who have adequate previous training in clinical medicine.

One is a **fellowship in cardiology** under the auspices of the San Mateo County Heart Association, beginning July 1, 1956, and will provide an opportunity for clinical investigation or basic research in the field of cardiovascular disease. The other **fellowship is in hematology**, beginning on the same date, under the auspices of the National Institutes of Health, and will provide opportunity for clinical investigation or basic research in the field of hematology and tumor chemotherapy.

Dr. Earl R. Miller, professor of radiology at the University of California School of Medicine, San Francisco, was elected chairman of the board of chancellors of the American College of Radiology at the fall meeting of the College in Chicago. Dr. Miller succeeds Dr. Wilbur Bailey, Los Angeles, retiring board chairman.

GENERAL

Officers of the **California Society of Internal Medicine**, elected at the annual meeting held at Santa Barbara, October 1, were: President, Dr. George K. Wever of Stockton, succeeding Dr. Paul Hoaglund of Pasadena; vice-president, Dr. William C. Mumler, Los Angeles; secretary-treasurer, Dr. Claude P. Callaway, San Francisco. Council members are: Drs. Lewis T. Bullock of Los Angeles; Thurman K. Hill, Santa Barbara; Walter P. Martin, Long Beach; Paul V. Morton, San Jose; Robert L. Smith, Jr., San Francisco, and James H. Thompson, San Francisco.

The ninth annual meeting of the **Western Society for Clinical Research** will be held January 27 and 28 at Carmel, California. Information regarding the meeting may be obtained from Arthur J. Seaman, secretary-treasurer, University of Oregon Medical School, Portland, Oregon.

* * *

The Fifth Congress of **Pan American Medical Women's Alliance** will be held in Santiago and Vina del Mar, Chile, March 4-14, 1956. Opportunities for sightseeing and visits to medical programs in Mexico, Salvador, Panama, Chile, Bolivia and Peru have been arranged, according to the announcement of the Congress. Information may be obtained from the secretary, Dr. Eva F. Dodge, 2124 West 11th Street, Little Rock, Arkansas, or from the program chairman, Dr. Eva Cutright, Wooster, Ohio.

* * *

The 16th Annual **Congress on Industrial Health** will be held January 23-24 at the Sheraton-Cadillac Hotel, Detroit. The principal speakers, according to announcement by the Council on Industrial Health of the American Medical Association, are Elmer Hess, M.D., the president of the American Medical Association, and Benson Ford, vice-president of Ford Motor Company. General subjects to be covered are: Occupational medicine in industrial relations, medicine's responsibilities in the automotive age, and absence from work due to nonoccupational illness and injury.

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The Tenth Inter-American Congress of the **Pan American Medical Association** will be held in Mexico City, March 25-31, 1957. The Congress will be held in sections covering all branches of medicine. Four days will be devoted to scientific sessions and the next three days will be spent in sightseeing, with visits to Cuernavaca, Taxco and Acapulco. Monday and Tuesday of the following week, medical meetings will be held in Guatemala City in conjunction with the local chapter there.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education assemblies and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Assistant Director, Postgraduate Activities, California Medical Association, 417 South Hill Street, Los Angeles 13.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Treatment of Emotional Problems, Thursdays, January 5 to March 22, 1956. Twenty-four hours. Fee: \$50.00.

Pathological Physiology, Mondays, January 30 to April 16, 1956. Twenty-four hours. Fee: \$50.00.

Application of Basic Science Techniques to Psychiatric Research, Thursday and Friday, January 26 and 27, 1956. Ten and one-half hours. Fee: \$3.50.

Dermatology 1956, Friday and Saturday, June 22 and 23, 1956. Twelve hours.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

In San Francisco:

Conference on Dermatology for General Practitioners, January 13 and 14, 1956. Twelve hours. Fee: \$40.00.

Ophthalmological Conference on Clinical Pathology, February 9, 10, 11, 1956. Fee: \$85.00.

Conference on Poliomyelitis, February 23, 24, 25, 1956.*

Course for General Practitioners, March 5 to 9, 1956. Fee: \$65.00.

Bedside Cardiology, March 19 to 23, 1956.*

Course in Electrocardiography for Beginners, March 19 to 23, 1956.*

Proctology, April 7, 1956.*

Urology in Office Practice, April 8, 1956.*

Plastic Surgery, May 18, 1956.*

Peripheral Vascular Surgery, May 19, 1956.*

Contact: Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

In Los Angeles:

Practical Electrocardiography, Friday, Saturday and Sunday, February 10, 11, 12. All day. Fee: \$50.00.

Surgical Planning. Begins March 10, 1956. Twelve hours. Fee: \$25.00.

Essential Physics of Therapeutic Radiology and Clinical Applications. Begins March 24, 1956. Twenty-four hours. Fee: \$75.00.

Contact: Phil R. Manning M.D., Director of Medical Extension Education, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33.

COLLEGE OF MEDICAL EVANGELISTS

Anesthesiology. Daily, full-time, four months, beginning each four months. Fee: \$300.

Medical Clinics, Tuesdays, January 3 to March 20, 1956. Eighteen hours. Fee: \$50.00.

Differential Diagnosis of Internal Diseases, Tuesdays, January 3 to March 20, 1956. Eighteen hours. Fee: \$50.00.

General Urology, Wednesdays, January 4 to February 29, 1956. Thirteen and one-half hours. Fee: \$35.00.

Management of Infertility, Thursday, January 5 to February 23, 1956. Twelve hours. Fee: \$30.00.

Dermatology, Tuesdays, January 10 to March 27, 1956. Eighteen hours. Fee: \$40.00.

Varicose Veins and Surgical Diseases of the Peripheral Vascular System, Tuesdays, January 17 to February 28, 1956. Fourteen hours. Fee: \$30.00.

Otolaryngology, Tuesdays, February 7 to March 27, 1956. Twelve hours. Fee: \$30.00.

Gynecology, Wednesdays, March 21 to May 23, 1956. Ten hours. Fee: \$30.00.

Operative Surgery, Wednesdays, March 21 to June 6, 1956. Thirty hours. Fee: \$200.00.

Thoracic Surgery, Wednesdays, April 18 to May 9, 1956. Eight hours. Fee: \$30.00.

Diseases and Injuries of Bones and Joints, Daily, July 2 to July 31, 1956. Full time. Fee: \$100.00.

Contact: Chairman, Section on Graduate and Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33.

* Fees to be announced.

STANFORD UNIVERSITY

Monday Morning Clinical Conferences, Room 515.

Contact: D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine.

Postgraduate Conference in Otorhinolaryngology, March 26 to 30, 1956. Fee: \$100.00.

Postgraduate Conference in Ophthalmology, March 19 to 23, 1956. Fee: \$100.00.

For information contact: Office of the Dean, Stanford University School of Medicine, 2398 Sacramento Street, San Francisco 15.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE INSTITUTES

SOUTHERN COUNTIES in association with the University of Southern California School of Medicine, January 19-20, 1956, at Laguna Beach.

WEST COAST COUNTIES in association with College of Medical Evangelists, March 1-2, 1956, in Carmel.

NORTH COAST COUNTIES in association with University of California School of Medicine, San Francisco, April 5 and 6, 1956, in Santa Rosa.

SAN JOAQUIN VALLEY COUNTIES in association with the University of California School of Medicine, Los Angeles, May 10 and 11, 1956, in Fresno.

SACRAMENTO VALLEY COUNTIES in association with Stanford University School of Medicine, June 21, 22, 1956, at Lake Tahoe.

Contact: C. A. Broaddus, M.D., Director of Postgraduate Activities, P.O. Box A-1, Carmel, California, or Mrs. Margaret H. Griffith, Assistant Director, Postgraduate Activities, California Medical Association, 417 So. Hill St., Los Angeles 13.

Medical Dates Bulletin

JANUARY MEETINGS

LOS ANGELES MIDWINTER MEDICAL CONVENTION, January 3, 4, 5, 1956, Biltmore Hotel, Los Angeles. An 85th anniversary, sponsored by Los Angeles County Medical Association.

Contact: Jerry L. Pettis, Public Relations Counsel, Los Angeles County Medical Association, 1925 Wilshire Blvd., Los Angeles 57. Telephone DUnkirk 5-1581.

LOS ANGELES COUNTY MEDICAL ASSOCIATION "Cavalcade of Health and Medical Progress," Shrine Auditorium, Los Angeles, January 6 to 15.

Contact: Bert Fitzgerald, business manager, Los Angeles County Medical Association, 1925 Wilshire Boulevard, Los Angeles 57.

MEDICAL ALUMNI COMMITTEE OF CHILDREN'S HOSPITAL, San Francisco, January 14, 1956.* Pediatric Surgery, with special emphasis on diagnosis, referral, preparation, pre- and postoperative care.

FEBRUARY MEETINGS

PUBLIC HEALTH LEAGUE OF CALIFORNIA annual meeting Southern District, Los Angeles, 6:30 p.m., February 2, 1956; annual meeting Northern District, 6:30 p.m., February 9, 1956, in San Francisco.

Contact: Ben H. Read, executive secretary, 510 South Spring Street, Los Angeles 13.

ALAMEDA-CONTRA COSTA MEDICAL ASSOCIATION Graduate Assembly. "The Dynamics of Endocrine Disease," Highland-Alameda County Hospital, February 10.

Contact: L. W. Kinsell, M.D., Instructor for Metabolic Research, Highland-Alameda County Hospital, Oakland.

AMERICAN BOARD OF SURGERY EXAMINATIONS, Part II, Los Angeles, February 13 and 14. Closing date is December 1.†

AMERICAN BOARD OF SURGERY EXAMINATIONS, Part II, San Francisco, February 16 and 17. Closing date is December 1.†

MIDWINTER X-RAY CONFERENCE sponsored by Los Angeles Radiology Society, Biltmore Hotel, Los Angeles, February 25 and 26, 1956.

Contact: Robert B. Engle, M.D., program chairman, St. Luke's Hospital, Pasadena 8.

UNIVERSITY OF CALIFORNIA SPROUL ANNIVERSARY CELEBRATION SYMPOSIUM, "The University and the Medical Sciences," Monday and Tuesday evenings, February 27 and 28, 1956, Morrison Auditorium in Golden Gate Park, San Francisco. All physicians cordially invited to attend.

Contact: Seymour M. Farber, M.D., chairman, at Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrorse 4-3600.

SPRING MEETINGS

COLLEGE OF MEDICAL EVANGELISTS ALUMNI POSTGRADUATE CONVENTION. Refresher courses, March 4 and 5, 1956, White Memorial Hospital, Los Angeles. Scientific Assembly, March 6 to 8, 1956, Biltmore Hotel, Los Angeles.

Contact: Walter B. Crawford, managing director, College of Medical Evangelists, Loma Linda.

MEDICAL ALUMNI COMMITTEE OF CHILDREN'S HOSPITAL, San Francisco, March 17, 1956.* Morning: Dermatology. Afternoon: Nutritional problems peculiar to modern pediatrics.

CALIFORNIA TUBERCULOSIS AND HEALTH ASSOCIATION, California Trudeau Society and California Sanatorium Association Annual Meeting, Sheraton-Palace Hotel, San Francisco, April 5, 6, 7.

Contact: E. L. Daggett, director, Public Relations, California Tuberculosis and Health Association, 130 Hayes Street, San Francisco 2.

UNITED STATES-MEXICO BORDER PUBLIC HEALTH ASSOCIATION, 14th annual meeting, Calexico (California) and Mexicali (Baja California), April 13 to 16, 1956.

Contact: Sidney B. Clark, M.D., secretary, 204 U. S. Court House, El Paso, Texas, or Donald G. Davy, M.D., assistant chief, Division of Local Health Service, 2151 Berkeley Way, Berkeley 4.

MEDICAL ALUMNI COMMITTEE OF CHILDREN'S HOSPITAL, San Francisco, April 14, 1956.* Behavior Problems and Childhood Psychiatry.

AMERICAN COLLEGE OF PHYSICIANS 37TH ANNUAL SESSION, Los Angeles, April 16-20, 1956.

Contact: George C. Griffith, M.D., General Chairman, Box 25, 1200 N. State St., Los Angeles 33.

VALLEY CHILDREN'S HOSPITAL ANNUAL SPRING CLINICS, April 27 and 28, 9 a.m., Roosevelt High School Auditorium, Fresno.

*For registration or information, contact: Gertrude Jones, M.D., Children's Hospital, San Francisco.

†For information, contact: John B. Flick, M.D., 255 S. Fifteenth Street, Philadelphia 2, Pa.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION annual meeting, all day, April 28, Ambassador Hotel, Los Angeles.
Contact: Edward Zaik, M.D., secretary, 740 South Olive Street, Los Angeles 14.

HAWAII MEDICAL ASSOCIATION Centennial Celebration. Scientific sessions, historical pageant of 100 years of medicine in Hawaii, social festivities, etc., Honolulu, April 22 to 29.

Contact: Hawaii Medical Association, 510 S. Beretania Street, Honolulu 13, Hawaii.

CALIFORNIA MEDICAL ASSOCIATION ANNUAL MEETING, Ambassador Hotel, Los Angeles, April 29 to May 2, 1956.

Contact: John Hunton, Executive Secretary, 450 Sutter St., San Francisco 8, or Ed Clancy, Director of Public Relations, 417 S. Hill St., Los Angeles 13.

NEW MEXICO MEDICAL SOCIETY annual session, Roswell, New Mexico, May 2 to 4.

Contact: Ralph R. Marshall, executive secretary, 223-24 First National Bank, Albuquerque, N. M.

CALIFORNIA HEART ASSOCIATION ANNUAL MEETING AND SCIENTIFIC SESSION, La Playa Hotel, Carmel, May 18 to 20, 1956.

Contact: Alan Croft Blanchard, field director, California Heart Association, 1428 Bush Street, San Francisco 9.

WESTERN BRANCH, AMERICAN PUBLIC HEALTH ASSOCIATION Annual Meeting, Salt Lake City, Utah, May 30 to June 2.

Contact: Mrs. L. Amy Darter, secretary-treasurer, at State Public Health, 2151 Berkeley Way, Berkeley 4, California.

COLORADO DIVISION OF THE AMERICAN CANCER SOCIETY 10th annual Rocky Mountain Cancer Conference, Shirley-Savoy Hotel, Denver, Colorado, July 11 and 12.

Contact: John S. Bouslog, M.D., 835 Republic Building, Denver 2, Colorado.

PROGRAM OF SCIENTIFIC MOTION PICTURES

AT THE 1956 ANNUAL MEETING of the California Medical Association, to be held at the Ambassador Hotel, Los Angeles, April 29 through May 2, approximately 100 motion pictures on surgery and medicine will be shown on the program of the Motion Picture Division.

If you would like to present a scientific motion picture film on this program, you must submit an application for approval not later than February 1, 1956.

Address all communications to:

ARTHUR E. SMITH, M.D., D.D.S.

Chairman, Motion Picture Division, California Medical Association

1930 Wilshire Boulevard, Suite 511

Los Angeles 57, California

INFORMATION

Los Angeles Midwinter Medical Convention

A WELL-ROUNDED PROGRAM emphasizing coordinated discussions on major developments in many phases of medical science will be an important feature of the Los Angeles Midwinter Medical Convention January 3, 4 and 5, 1956, according to Ewing L. Turner, M.D., president of the Los Angeles County Medical Association. Immediately afterward, a Cavalcade of Health and Medical Progress, open to the public, will be held in the Shrine Auditorium and Exposition Hall. It will begin January 6 and end January 15.

Conceived to commemorate the 85th anniversary of the association, the convention will offer a number of innovations which should be of interest to physicians everywhere, Dr. Turner said.

Instead of the usual series of individual papers on a number of unrelated subjects, the convention program has been planned to coordinate the newest and most significant information in six major fields of medicine, he said.

Paul D. Foster, M.D., general chairman of the convention, has announced a program organized into sections in which prominent medical authorities and lecturers will lead panel discussions on:

1. Medicine's Role in the Atomic Age
2. Newer Concepts in the Use of Blood
3. Cancer and Allied Diseases
4. Preventive Medicine
5. Use and Misuse of Miracle Drugs
6. Management of the Geriatric Patient

One half-day session will be devoted to each subject.

A top-ranking panel of more than 30 of the nation's outstanding medical authorities, clinicians and specialists will serve as program moderators and discussion leaders.

Moderators announced by Arthur A. Kirchner, M.D., program chairman, include:

Edmund V. Cowdry, Ph.D., geriatrician and professor of cytology at Washington University Medical School, St. Louis; Oscar B. Hunter, M.D., pathologist, Georgetown University Medical School, Washington, D. C.; Perrin H. Long, M.D., professor of medicine and executive officer at New York College of Medicine of the State University of New York; Karl Meyer, Ph.D., M.D., public health authority

and director emeritus of the University of California's famed Hooper Foundation for Medical Research, San Francisco; George T. Pack, M.D., clinical professor of surgery at New York Medical College and a staff member of the Memorial Cancer Center, New York; and Stafford L. Warren, M.D., dean of the School of Medicine at the University of California at Los Angeles.

Convention headquarters will be at the Biltmore Hotel. In order to center convention activities and to facilitate attendance at the scientific sessions, the LACMA also has engaged the 2500-seat Philharmonic Auditorium just across the street from the hotel.

Strong emphasis has been given to developments and problems encountered in present-day medical practice in the closely integrated three-day program. In addition to the six moderators, 27 panelists will participate in the discussions. Examples of the wide range of topics to be discussed are:

"New Developments in Atomic Medicine," by John Bugher, M.D., of the Rockefeller Institute, New York; "Advantages and Complications from Use of Plasma, Plasma Fractions and Plasma Expanders," by Sam Gibson, M.D., associate director of the American Red Cross National Blood Program, Washington, D. C.; "Gynecological Cancer," by Gray H. Twombly, M.D., of New York; "Current Preventive Problems of Child Health," by Leslie Corsa, Jr., M.D., of the California State Department of Public Health; "Preventive Medicine in Industry," by James H. Sterner, M.D., medical director of the Eastman Kodak Company, Rochester, N. Y.; "Progress in Preventive Medicine," by James Watt, M.D., director of the National Heart Institute, National Institutes of Health, Bethesda, Md.; "Steroids in General Practice," by Dalton Jenkins, M.D., of the University of Colorado; and "Medical Aspects of Geriatrics" by Paul Starr, M.D., of the University of Southern California School of Medicine, Los Angeles.

A broad medical motion picture program including more than 20 films on diversified subjects also will be a part of the scientific sessions.

Cavalcade of Health and Medical Progress

The Cavalcade of Health and Medical Progress, which follows the convention, is designed for a lay audience. Purpose of the ten-day Cavalcade is to present health and medical education on a mass basis to the public.

The public will be made to feel a part of America's great medical system, to know all the factors about medicine which can be assimilated without a medical education and medical background. They will hear many of the same speakers who will address the

Midwinter Convention scientific sessions for doctors, with technical terms carefully translated into non-technical language. Dr. Walter C. Alvarez, noted medical authority and syndicated columnist, and United States Surgeon General Leonard Scheele will participate in the program.

In the knowledge that many illnesses are brought on by ignorance of medical facts and fear of the unknown, the LACMA believes the time has come when those who want to know more about themselves may get this information direct from a world medical authority at a convention or cavalcade sponsored by their own doctors.

Importance of the educational aspect of the Cavalcade is shown by the official interest of the Los Angeles City and County school systems, and the private and parochial school organizations in the area.

Special attention has been given to students and their teachers in the presentation of material to be seen and heard at the Cavalcade. School authorities have made special arrangements for participation of

students and teachers in the Cavalcade and both will receive formal credit for attendance.

The Cavalcade will present dramatic motion pictures, graphic exhibits, informative lectures and demonstrations on all phases of health and medical progress.

The nation's top medical schools and universities, the American Medical Association and other scientific institutions will provide exhibits for the vast, educational "floor show."

A working model of the world's first nuclear reactor designed specifically for medical research—which President Eisenhower took to the Geneva Atomic Energy Conference—will be included among the exhibits. There will be others on aviation medicine and automobile traffic safety.

Also featured will be some 350 illustrative exhibits and demonstrations prepared by leading pharmaceutical companies, medical equipment manufacturers and book publishers, food processors and other firms and agencies engaged in helping the country's doctors promote good public health.

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Los Angeles 57, California

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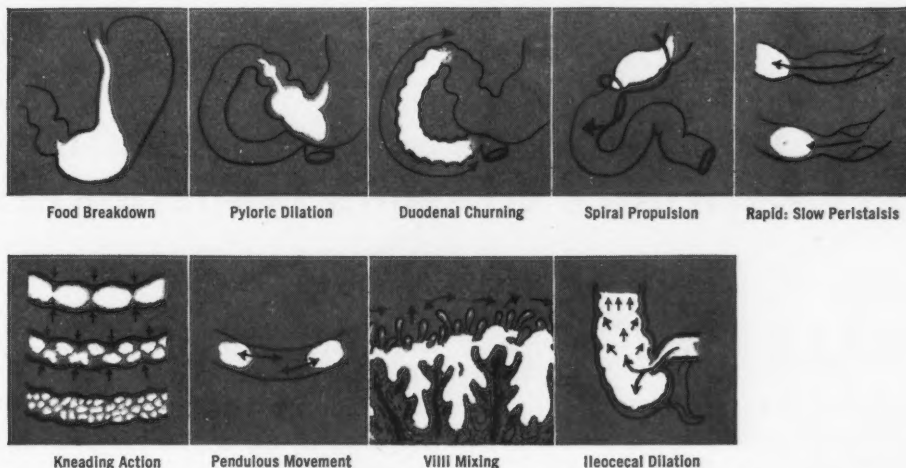
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TYPES OF MOVEMENT WITHIN THE BOWEL



SEARLE

Two New Drugs Are Effective for Amebic Dysentery

A relatively new drug has proved valuable in controlling intestinal amebiasis, according to a report by six scientists in a recent issue of the *Journal of the American Medical Association*.

The drug, fumagillin (Fumadil) was found to be effective when used during an outbreak of water-borne amebiasis in South Bend, Ind., in 1953, they said. This outbreak among employees of a wood-working plant was the third reported involving civilians in the United States. It presented "a nearly ideal situation" for investigation of methods of treatment, the scientists said.

Previous evaluations of amebicides have been conducted in mental institutions or prisoner of war camps, where the possibility of continued exposure existed. These studies also were retarded by the necessity of treating a small number of persons at one time.

In the South Bend outbreak, a large number of persons was infected, which permitted the simultaneous evaluation of two methods of treatment. In addition, the probable source of infection—a contaminated water supply—was removed before treatment began, they said. The people involved belonged to a relatively stable population, allowing for careful and prolonged study of each individual.

In addition to providing an opportunity to study

methods of treatment, the outbreak illustrated the type of teamwork by medical and health agencies available in an American community. This alone would have made the study worthwhile, the authors said.

Cooperating in the study were the county medical society, local and state health agencies, the industrial concern, the union, the personnel of the plant, two pharmaceutical firms, a federal health agency, and a school of medicine.

Approximately 800 of 1,500 employees were infected with *Endamoeba histolytica*. Half of the 800 were treated with fumagillin and half with oxytetracycline (Terramycin), a drug already proved by tests in Korea to be effective against the disease.

After four months of treatment, the organism was found to be absent from the gastrointestinal tract of 93 per cent of the patients treated. Those still infected were then given the alternate drug. A random survey a year later showed that only two of 178 persons were still infected.

The drugs produced similar side effects, but they were usually mild and usually disappeared after completion of treatment, the authors said.

Making the report were Robert W. Sappenfield, M.D., New Orleans; F. R. N. Carter, M.D., and Carl Culbertson, M.D., both of South Bend; Marion M. Brooke, Sc.D., and Fred M. Payne, M.D., both of Atlanta, Ga., and William W. Frye, M.D., Ph.D., New Orleans.

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New Disease Transmitted By Transfusion

An influenza-like illness, discovered by two Chicago physicians, has been added to the list of diseases which may be transmitted by blood transfusion.

The new illness—as yet unnamed—apparently is caused by a virus, which is transmitted only by blood transfusion or injection and not by swallowing or inhaling.

The agent causing the disease was found to survive normal blood-banking conditions. Because of this and the possibility that it may be present in healthy volunteers, it may represent "a potential hazard" in the transfusion of blood, the physicians said in a recent issue of the *Journal of the American Medical Association*.

The disease apparently is unrelated to any of the other diseases transmitted by transfusion. These include hepatitis, syphilis, malaria, smallpox, typhoid, brucellosis, kala-azar, measles, and infectious mononucleosis.

The physicians found the disease while making blood cell survival studies among inmates of Illinois State Penitentiary, Joliet, for the Army Malaria Research Unit, Department of Medicine, University of Chicago. A feverish illness occurred in five or six persons about two weeks after they received blood from the same apparently healthy person. Their symptoms included headache, muscular pain, fever, nausea, vomiting, and upper respiratory involvement.

(Continued on Page 70)

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Born in Lansing, Michigan and educated at the University of California, Jack Field lived in Los Angeles and Alhambra before settling down in North Fresno where he and his wife Mary now make their headquarters in their own home.

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"Head Injury Epidemic" Could Be Prevented

The only cure for the "head injury epidemic" now sweeping the country is prevention through safer automobile construction, a California neurosurgeon said recently.

Head and neck injuries account for nearly 70 per cent of all auto crash deaths, Dr. C. Hunter Shelden, Pasadena, said in a recent issue of the *Journal of the American Medical Association*. In spite of the "most concerted efforts" of neurosurgeons, the severe head injury is fatal, for once the brain is injured beyond a certain degree, there can be no recovery, he said.

Last year there were 5,200,000 reported auto accidents, 1,500,000 resultant injuries, 100,000 persons totally disabled, and 38,000 deaths—"rather lethal statistics to refer to a so-called pleasure car," Dr. Shelden said.

Pressure is developing that will bring about safety improvements, but so far there has been "much smoke but no fire," he said. Changes must be made at once and not in a piecemeal manner. "Such a delaying action may be a satisfactory policy in business, but not in a matter of health and public safety. Translated into medicine, it would be comparable to withholding known methods of lifesaving value," he said.

Engineers have supplied valuable safety ideas, but they have had only limited use, because the automobile industry "apparently is governed entirely by the cost accounting division," he said. No new idea can be adopted unless it reduces present costs or promises better sales.

However, safety is the one feature that the public will accept if given the opportunity, without the need of propaganda and expensive advertising, he said.

Because no company can afford to undertake an immediate and complete safety program, Dr. Shelden suggested that a national group be set up to regulate and approve automobile safety, allowing industry to pool safety ideas, standardize construction methods, and avoid competition.

Dr. Shelden outlined some suggestions for improved auto safety, pointing out that if a medical research group can devise safer construction methods engineers could come up with even better ones.

Of particular concern in preventing head and neck injuries is seat construction, which Dr. Shelden called "a disgrace to the combined engineering staffs of the automobile industry." Seats are designed for comfort and not for safety. The fixed portion of the seat is fastened to the frame only by four small bolts, which allow frequent seat failures. Seat cushions are not securely fastened, are easily torn loose and tossed about in a crash, and can cause a fatal injury.

Poor seat design accounts for thousands of "whiplash injuries," which occur when the car is struck

(Continued on Page 66)

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*Le Van, P., Sternberg, T. H., and Newcomer, V. D., Cal. Med., 81: 210-213, Sept. 1954.

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"Head Injury Epidemic" Could Be Prevented

(Continued from Page 64)

from the rear. With the impact, the head is thrown backwards. Since the seat back is low, the top of the seat serves as a fulcrum over which the neck is snapped. Whiplash injuries are the most disabling of all nonfatal auto injuries, he said.

Dr. Shelden suggested that a small elevated portion of the seat be placed directly behind the head—not high enough to support the head while driving but high enough to give the head support if the neck is suddenly extended.

He also said a method that would rigidly attach both doors to the outside edges of the front seat backs is needed. This would hold the doors tightly shut and prevent the front seat backs from flying forward. A better locking method is necessary to keep passengers from being thrown from the car. Between 25 and 35 per cent of all deaths occur in this manner.

There has been some improvement in interior projections, but dashboards still have dangerous knobs and buttons that can "easily produce" serious depressed skull fractures in a crash, he said. He also suggested the addition of a roll bar to prevent the crushing of the passenger compartment if the car rolls over.

He said current safety belts with two straps are inconvenient, because the free ends when not in use lie across the seat, fall out the door or on the floor. In order to fasten the belt, both hands must be taken from the wheel and attention turned from the road. A belt that rolls up when not in use and can be fastened with one hand would improve the situation. Until improved designs are available, the public is not going to take full advantage of safety belts, he said.

"Eventually a method must be developed whereby the passenger is automatically and instantaneously restrained during a crash," he said.

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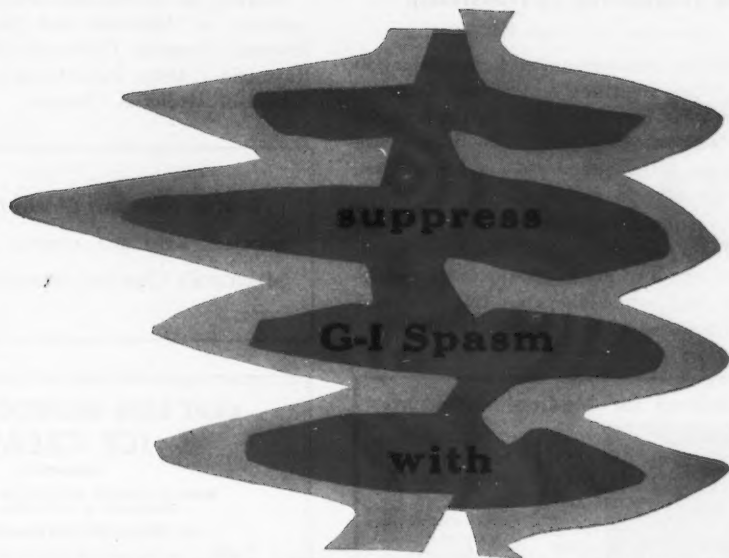
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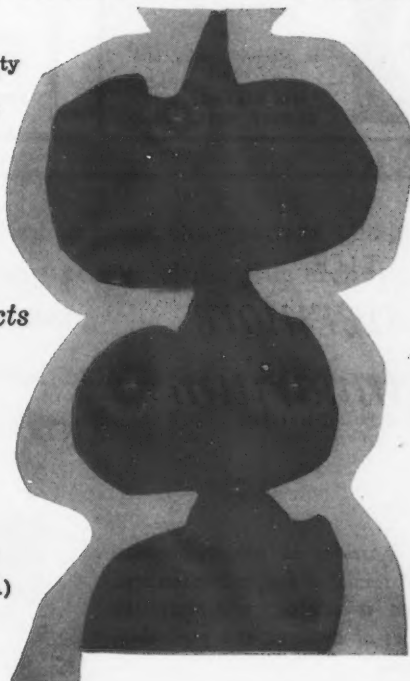
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New Disease Transmitted By Transfusion

(Continued from Page 62)

Later the disease was transmitted to more than 30 healthy individuals by transfusing blood from infected persons while they were in either the acute or convalescent stage. The course of the illness was similar in all the patients, and did not become less severe with successive inoculations.

Most of the patients recovered quickly after the acute attack, but a few suffered relapses. Some developed painful stiffness of the joints one to five weeks after the acute stage, while others had recurrences of the original symptoms 12 to 16 weeks later.

Making the report were Dr. Ernest Beutler, Department of Medicine and the Argonne Cancer Research Hospital, University of Chicago, and Dr. Raymond J. Dern, Department of Medicine, Stritch School of Medicine, Chicago.

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Hypnotism Suggested for Some Childbirths

While hypnotism will never replace chemical anesthetics in childbirth, it is proving "a powerful ally" in reducing fear, pain and other difficulties, a Chicago physician recently stated.

During the past decade it has received increasing recognition by surgeons, physicians, dentists and clinical psychologists as they attempt to build "a new science from the foundation of an ancient art," Dr. Sol T. DeLee said.

Dr. DeLee, attending physician at the Chicago Maternity Center, outlined advantages and disadvantages of hypnotism in pregnancy and labor in a recent issue of the *Journal of the American Medical Association*.

No longer "shrouded in mysticism," hypnotism is considered an established psychological aid. It is a method of inducing relaxation, during which susceptibility to suggestion is increased, he said. Under hypnosis a person may accept an idea uncritically, which enables him to behave in the sought-for way.

With hypnosis, he said, a woman is likely to have a more pleasant pregnancy because she accepts the suggestion that she will feel little or no pain. Hypnotism may create a better mother-child relationship because the mother has the sensations of childbirth but no pain or unpleasant memories, he said.

Elimination of pain decreases shock and speeds recovery, he said. Amnesia for part or all of the labor and delivery also can be achieved if the patient wishes.

Under hypnosis the patient cooperates more fully than under chemical anesthesia, which frequently interferes with the normal mechanism of labor, Dr. DeLee said. There are no undesirable after effects from hypnosis as with most anesthetic agents. It is also useful for persons allergic to other anesthetic agents.

However, hypnosis can be induced in only about one out of four patients and even in these it may not be complete, the author said. Whether it can be induced is mainly up to the patient. She must want to be hypnotized, must be susceptible to suggestion, and must achieve a harmonious relationship with her physician.

One of the major disadvantages is that it is time-consuming. The pregnant woman must be hypnotized a number of times during her pregnancy so she will be prepared to respond properly to suggestions during labor and delivery.

Until its value is more fully understood and accepted, hypnotism is best used by the physician only at the patient's request, he said.

New Method for Aorta Surgery Described

When the aorta, the main trunk of the circulatory system, needs surgery, physicians face the problem of performing the operation without cutting off circulation.

The problem is especially difficult in the arch and descending aorta, the parts lying in the chest, for "irrevocable damage" to the spinal cord may occur if the blood flow is shut off too long.

However, a Boston physician, Dr. Herbert D. Adams, reported in a recent issue of the *Journal of the American Medical Association* that he successfully performed two operations on the thoracic aorta without once stopping the flow of blood. He used a method already found successful in operations on the abdominal aorta.

Both operations were for the removal of aneurysms, sac-like bulges in the sides of the aortic walls.

In his operations, Dr. Adams used an aortic graft, which he inserted as a shunt or by-pass around the aneurysm. While the graft was being inserted, the blood continued to flow through the aorta. After the shunt was in place and the blood was flowing through it, the aorta was clamped shut and the aneurysm removed.

In one of the cases, involving a "huge" aneurysm, the two ends of the aorta were closed and the shunt left as the permanent passage for the blood. In the other case, a second graft was placed between the

ends of the aorta as a replacement for the diseased portion and the shunt removed. In both cases the grafts functioned successfully, Dr. Adams said.

Specialist Seeks Help in Heart Attack Survey

Dr. Paul Dudley White, Boston heart specialist, recently asked his colleagues to help him find out how many other Americans have had heart attacks like that of President Eisenhower.

In a letter published in a recent issue of the *Journal of the American Medical Association*, Dr. White asked physicians to send him information about their own cases of acute coronary thrombosis, which is more in the limelight than it ever was before the President's illness.

He asked the doctors to supply the following information:

The number of patients with unquestionable acute coronary thrombosis in their practices who became ill during the month following the President's attack—September 24 to October 23, 1955, inclusive; the sex, age, occupation, and national origin of each patient; and the length of time between onset of illness and any deaths.

Dr. White asked the physicians to answer even if they had had no cases during the period. He also asked them to give details about patients who became ill with coronary thrombosis before June 25, 1955.



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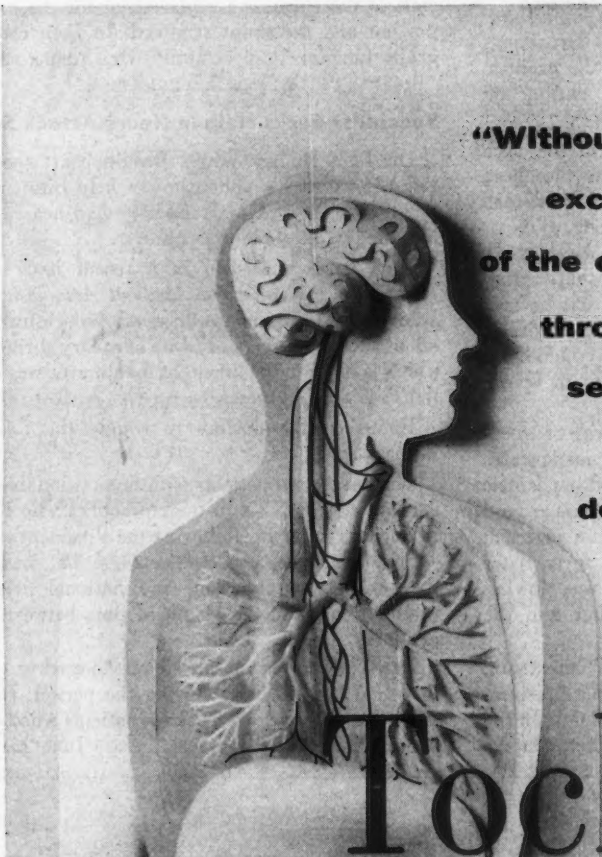
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1. Sherber, D.A., and Levites, M.M.:
J.A.M.A. 182:582 (June 20) 1953.

2. Albert, A., and Albert, M.:
Texas State J. Med. 50:214 (Dec.) 1954.



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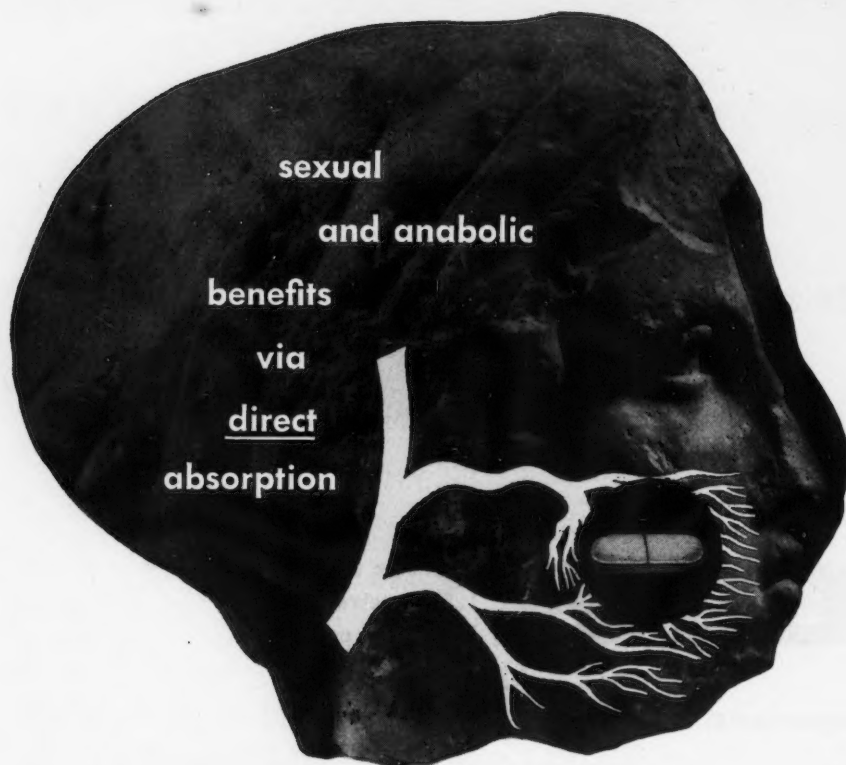
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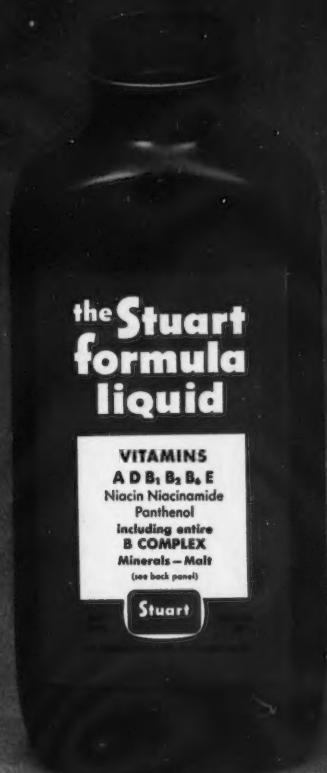
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1. Elselder, H.W.: *Am. Pract. & Dig. Treat.*, 5:778 (Oct.) 1954. 2. Sebrell, W.H., Jr.: *J.A.M.A.* 152:42 (May) 1953. 3. Sherman, R.J.: *Medical Times*, 82:107 (Feb.) 1954.

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Weight Charts, and samples of Obedrin.

THE S. E. MASSENGILL COMPANY
BRISTOL, TENNESSEE

WHY SENSITIZE

in topical and ophthalmic infections

USE 'POLYSPORIN'[®]

POLYMYXIN B-BACITRACIN OINTMENT brand

*to insure broad-spectrum therapy
with minimum allergenicity*

For topical use: in ½ oz. and 1 oz. tubes.

For ophthalmic use: in ½ oz. tubes.



BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.



THERE IS A DIFFERENCE



*...and in the
field of parenteral
therapy, one name
stands out, Baxter*

BAXTER

DON BAXTER, INC., Research and Production Laboratories, Glendale 1, California

Better surgical
results with broad-
spectrum electrolytes



There is a
difference

ISOLYTE

more closely resembles
the electrolyte content
of normal plasma

Each 100 cc. contains: Sodium Acetate N.F. 0.94 Gm.,
Sodium Chloride U.S.P. 0.5 Gm., Potassium
Chloride U.S.P. 0.075 Gm., Sodium Citrate
U.S.P. 0.075 Gm., Calcium Chloride U.S.P. 0.033 Gm.,
Magnesium Chloride Hexahydrate 0.031 Gm.

Available with or without 2% Dextrose

*Bicarbonate precursors

...and in the field
of parenteral therapy,
one name stands out...

BAXTER

DON BAXTER, INC.

Research and Production Laboratories • Glendale, California

Insomnia, headache, irritability,
failing memory may be symptoms of
estrogen deficiency due to declining ovarian function.

"Premarin"® (conjugated estrogens, equine) is a notably effective
preparation for estrogen replacement therapy.

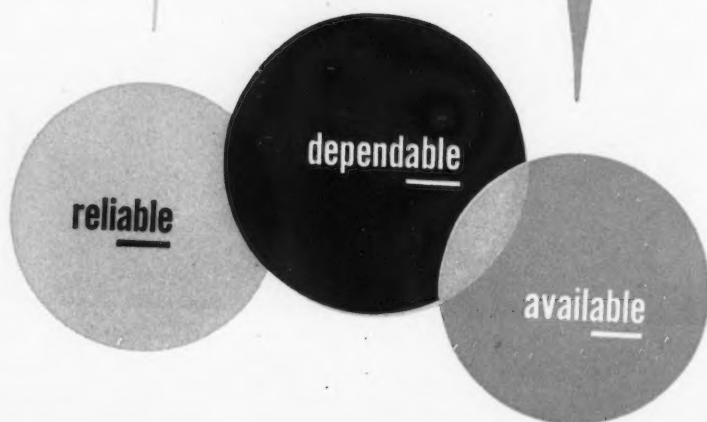
Ayerst

Ayerst Laboratories
New York, N. Y. • Montreal, Canada

5508

the able antibiotic

AC



pelargon[®]

*complete in all known nutrients
no supplementation needed*



- for normal infants
- for infants with digestive difficulties
- for premature and marasmic infants

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

Pelargon is prepared from spray dried whole milk modified by the addition of dextrins—maltose, sucrose, starch, and lactic acid, and fortified by vitamins and minerals in amounts exceeding recommended allowances. This combination of sugars leads to spaced absorption—a physiologic means of reducing fermentation and preventing sugar from flooding the blood stream. Pelargon's high content of *biologically complete* milk protein fulfills protein needs for growth and maintenance. Pelargon is acidified with lactic acid to facilitate gastric digestion.

Forming liquid gastric curds with zero tension, Pelargon has earned an honored place in infant feeding, not only for normal infants, but for infants with digestive difficulties, and for premature and marasmic infants. No supplementation necessary.

THE NESTLÉ COMPANY, INC. • Professional Products Division • White Plains, New York

Announcing

**SECOND
ANNUAL
CALIFORNIA CONFERENCE
ON
RURAL
HEALTH**

January 20 - 21, 1956

FRESNO HACIENDA

•

FRESNO, CALIFORNIA



Season's Greetings

to the

Advertisers in California Medicine

with best wishes

for a year of continued progress

new nonbarbiturate

Placidyl

nudges your patient to sleep

Gentle. Nonaddictive. No dangerous respiratory depression.
No habit-forming properties. No interference with
normal breathing. No interference with normal
digestion. No interference with normal kidney function.
No interference with normal liver function.

Abbott



*There can be "extra dividends"
on an ECG investment*

If you are considering purchase of an electrocardiograph, it may seem to you that all makes are "pretty much alike", since none can do more for you clinically than produce an electrocardiogram. Looking at it from an investment point of view, you expect your instrument to pay you good dividends in the form of specific benefits to you and your patients. But, investments that pay *extra dividends* are the happy ones. Here are a few that go with Viso-Cardiette ownership.

Sanborn
Viso-
Cardiette

KNOWN dependability

Initial thinking in considering an ECG should reach beyond favorable first impressions to the instrument's potential continuity of service. There the best yardstick is to inquire among those of your colleagues or associates who own electrocardiographs. You will soon learn that the name "SANBORN" is synonymous with "dependability", which is an understandable result of over 30 years of specialization in the design and manufacture of this type of precision instrument.

DIRECT responsibility

There are many "extra dividends" in dealing directly with the maker of your ECG. The interest in and responsibility towards you as the user is with Sanborn Company instead of an intermediate source. There is a standardization of prices, and the cost is the same to all. Also, the Viso user can avail himself of direct contact with the designers of his instrument, and his local serviceman is, more likely than not, a SANBORN man, full-time and factory-trained.

EXCLUSIVE Service Helps

Every alternate month all Viso owners receive, free of charge, the Sanborn Technical Bulletin which contains much helpful data on operating procedure, maintenance, ideas and techniques developed by others, and the like — all prepared by an experienced staff. In addition, a five-part Sanborn Service Course by correspondence is available for technicians principally, who wish technical information a bit beyond the preliminary Instructions. No other ECG maker offers these "extra dividends" in Service.

Ask for details of a 15-day,
no-obligation clinical test plan.

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LOS ANGELES Branch Office, 670 North Normandie Ave., Normandy 4-2302
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In a Filter Cigarette... it's the Filter You Depend on



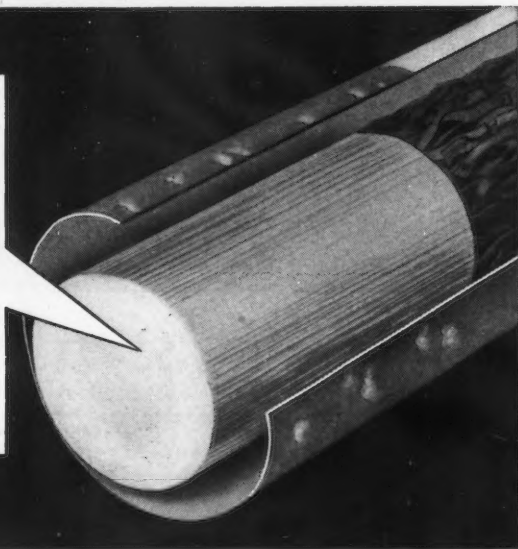
The VICEROY filter tip contains 20,000 tiny filter traps, made through the solubilization of pure natural material. This is twice as many of these filter traps as any other brand.

We believe this simple fact is one of the principal reasons why so many doctors smoke *and* recommend VICEROY—the cigarette you can *really* depend on!

ONLY VICEROY GIVES YOU

20,000 Filter Traps

**TWICE AS MANY OF
THESE FILTER TRAPS AS
ANY OTHER BRAND!**

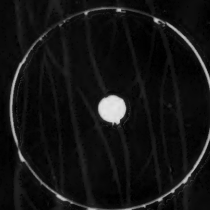


*King-Size
Filter Tip* **VICEROY**



World's Most Popular Filter Tip Cigarette
Only a Penny or Two More
Than Cigarettes Without Filters

in peripheral
vascular disease



'Paveril Phosphate'

(DIOXYLINE PHOSPHATE, LILLY)

... relaxes vasospasm

When occlusion initiates a reflex spasm in the neighboring vessels, 'Paveril Phosphate,' by direct action on smooth muscle, relieves vasospasm and induces local vasodilation. Blood flow is increased, and collateral circulation is encouraged. This permits more rapid rehabilitation of the limb.

SUPPLIED AS: Tablets of 1 1/2 and 3 grains.

DOSE: 3 grains three or four times daily, up to 30 grains in twenty-four hours.

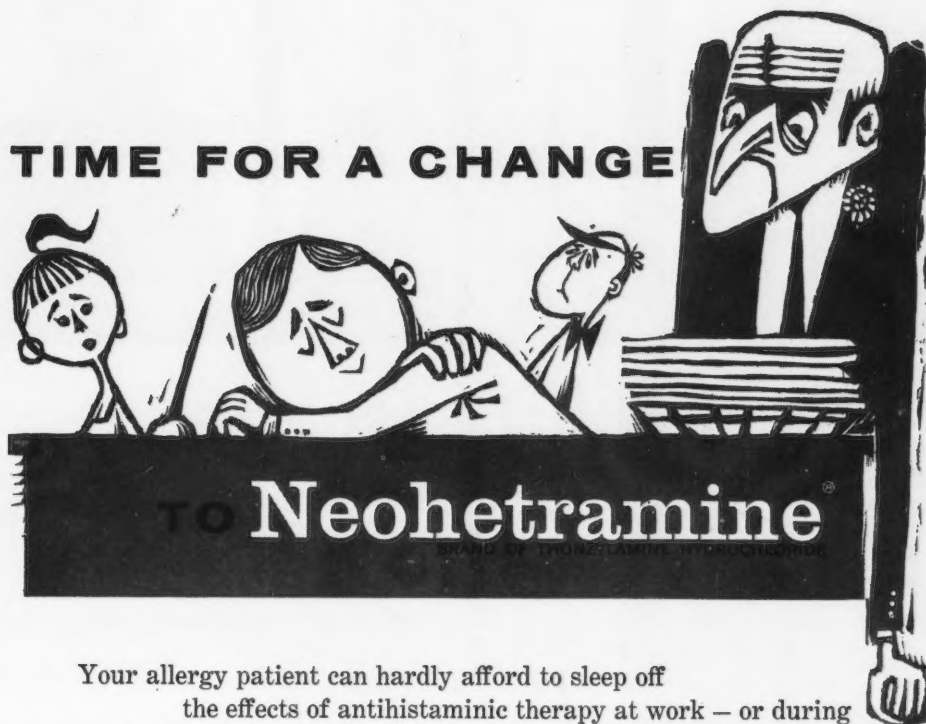
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QUALITY / RESEARCH / INTEGRITY

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567008

TIME FOR A CHANGE



Your allergy patient can hardly afford to sleep off the effects of antihistaminic therapy at work — or during his leisure hours. To spare him this dilemma, prescribe . . .

Neohetramine[®] *the effective antihistaminic with minimal impairment of normal daytime alertness.*

Neohetramine is virtually free from sedation.

Neohetramine is extremely well tolerated.

Neohetramine is particularly useful in pediatric practice because of its markedly lower incidence of side reactions.

Dosage: Initiate with 50 mg. tablets or syrup, two to four times daily for adults, 25 mg. two to four times daily for children, and increase according to individual response.

Supplied: Tablets — 25 mg., 50 mg., and 100 mg. Syrup — 25 mg. per teaspoonful (4 cc.) For topical application: Cream 2% in one ounce tubes.

Literature, reprints and clinical supplies on request.



N 2603 M

NEPERA CHEMICAL CO., INC. *Pharmaceutical Manufacturers, Nepera Park, Yonkers 2, N. Y.*



*"Disillusion and despair
almost robbed
this life-worn widow
of her sanity . . ."*



BETTER TOLERATED

Ferrous gluconate aided
by aminoacetic acid
permits heavy assimilation
of iron with virtually
no gastric irritation.

HIGHER POTENCIES

Recommended daily dose supplies adults
with 15 times daily iron requirement
(children $7\frac{1}{2}$ times) plus large amounts of
B Complex important in anemia therapy.

BOYLE LIQUID HEMATINIC

GOOD TASTE
means patient cooperation...

TASTES GOOD...
REALLY GOOD

BETTER TASTE

Really! Ask your
Boyle representative
or write for
taste sample for
convincing proof.

CHILDREN AND ADULTS

...like its pleasant flavor.

*Other members of the
Boyle Hematinic Family*

BOYLE HEMATINIC PLAIN
BOYLE THERAPEUTIC HEMATINIC
BOYLE HEMATINIC WITH B₁₂

LOW COST

Important to your patient

Available in pints
at all pharmacies

BOYLE

BOYLE AND COMPANY
Los Angeles 18, California

EACH FLUID OUNCE CONTAINS:

Ferrous Gluconate (Iron Content)	150 mg.)	20.0 gr.
Vitamin B ₁₂ (Activity equivalent)*		10.0 mcg.
Aminoacetic Acid, N.F.		1.5 Gm.
Thiamine Hydrochloride		10.0 mg.
Riboflavin		10.0 mg.
Pyridoxine Hydrochloride		3.0 mg.
Niacinamide		60.0 mg.
Panthenol		6.5 mg.
Liver Fraction 1, N.F.		5.0 gr.
Manganese (Manganese Sulfate)		5.0 mg.

ADULT MDR (30 cc.)

15 times
**

10 times
5 times
**
**

CHILD MDR (6 to 12) (15 cc.)

$7\frac{1}{2}$ times
**

 $6\frac{1}{2}$ times
**
**
**

CHILD MDR (2 to 6) (10 cc.)

$6\frac{1}{2}$ times
**

 $6\frac{1}{2}$ times
**
**
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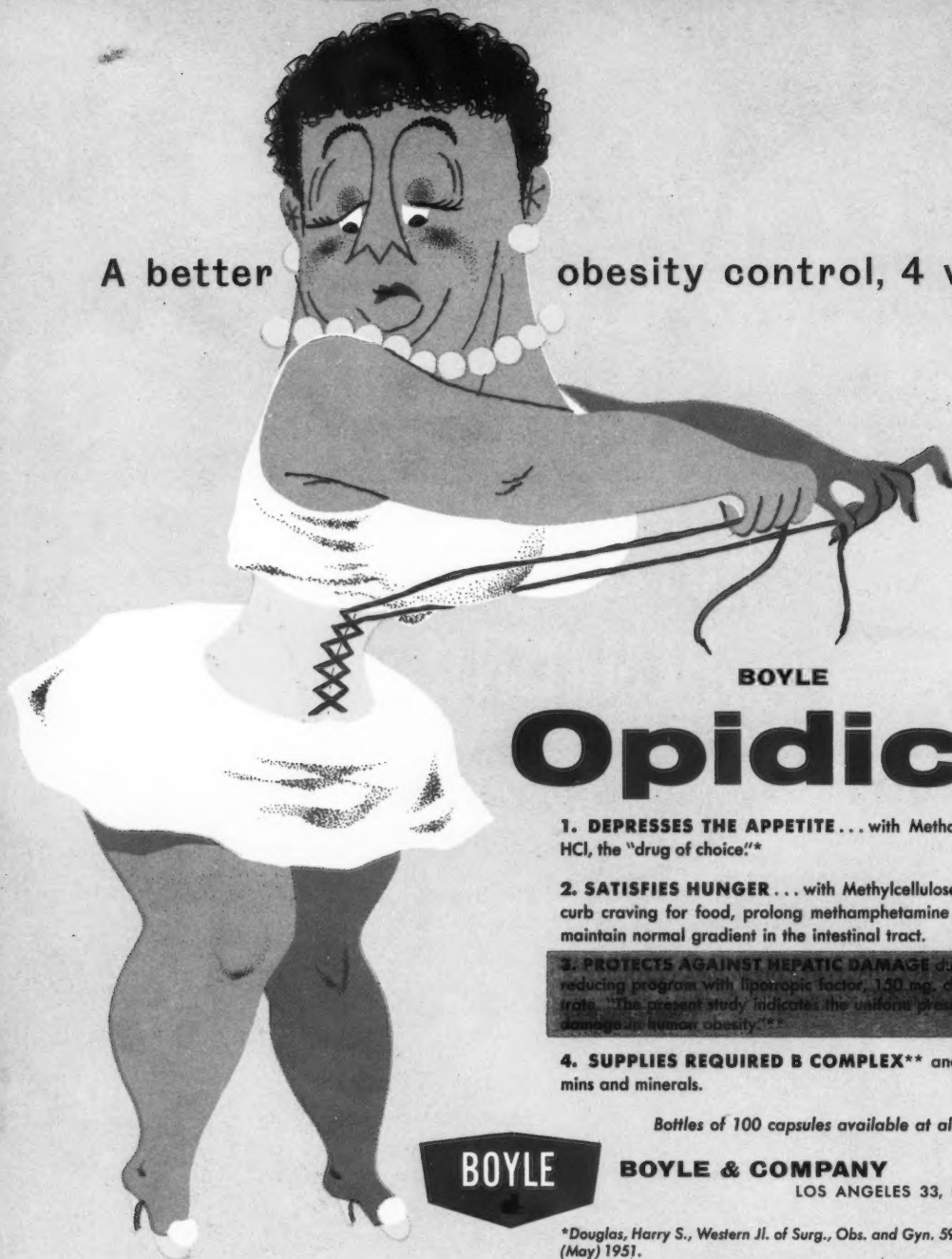
*Derived from Streptomyces fermentation extractives equivalent in activity to 10.0 mcg. Crystalline Vitamin B₁₂.

**Minimum Daily Requirement not established.

***Need in human nutrition not established.

A better

obesity control, 4 ways



BOYLE

Opidice

1. DEPRESSES THE APPETITE... with Methamphetamine HCl, the "drug of choice."*

2. SATISFIES HUNGER... with Methylcellulose for bulk to curb craving for food, prolong methamphetamine action, help maintain normal gradient in the intestinal tract.

3. PROTECTS AGAINST HEPATIC DAMAGE during dietary reducing program with lipotropic factor, 150 mg. choline bitartrate. "The present study indicates the uniform presence of liver damage in human obesity."**

4. SUPPLIES REQUIRED B COMPLEX** and other vitamins and minerals.

Bottles of 100 capsules available at all pharmacies

BOYLE

BOYLE & COMPANY

LOS ANGELES 33, CALIFORNIA

*Douglas, Harry S., Western J. of Surg., Obs. and Gyn. 59:238-244 (May) 1951.

**Zelman, Samuel, A.M.A. Arch. of Int. Med. 90:137, 1952.



EACH CAPSULE CONTAINS:

METHAMPHETAMINE HCl USP (d-Desoxyephedrine HCl)....	5 mg.
METHYLCELLULOSE	225 mg.
CHOLINE BITARTRATE..	150 mg.
Thiamine Mononitrate	1.67 mg.
Ascorbic Acid.....	25 mg.
Riboflavin	1.0 mg.
Vitamin A (acetate)	2500 USP Units
Niacinamide	10.0 mg.
Vitamin D.....	250 USP Units
Vitamin B ₁₂	1.0 mcg.
Iron	2.5 mg.
Folic Acid.....	0.03 mg.
Iodine	0.05 mg.

Rest comes best to the relaxed patient.

Noludar relaxes the patient and usually induces sleep within one-half to one hour, lasting for 6 to 7 hours. Clinical studies in over 3,000 patients have confirmed the usefulness of Noludar in the relief of nervous insomnia and daytime tension.

Noludar 'Roche' is not a barbiturate. Available in 50-mg and 200-mg tablets, and in liquid form, 50 mg per teaspoonful.

Noludar® -brand of methyprylon

Hoffmann - La Roche Inc

Nutley . N.J.



when patients complain of itching,
scaling, burning scalps—or
when you spot these symptoms
of seborrheic dermatitis—you can
be sure of quick, lasting control
when you prescribe



SELSUN[®]

*for your
seborrheic
dermatitis
patients*

controls 81-87% of all seborrheic
dermatitis, 92-95% of all dandruff
cases. Once scaling is controlled,
SELSUN keeps the scalp healthy for
one to four weeks with simple,
pleasant treatments. In 4-fluid-
ounce bottles, available on
prescription only. **Abbott**

® SELSUN Sulfide Suspension / Selenium Sulfide, Abbott

Pork in the Dietary

During Pregnancy and Lactation

CERTAIN NUTRIENTS are required in greater than normal amounts during pregnancy and lactation. Pork meat, though its cost is low, supplies a remarkably high quantity of the nutrients required by the maternal organism in these periods of physiologic need.

During pregnancy the maternal organism may store 3.3 to 5.5 pounds of protein in excess of that contributed to fetal tissue.¹ Enough iron is stored to approximate the entire amount secreted in the milk during 9 months of lactation, in addition to the iron supplied to the fetus.²

The body of the newborn infant contains approximately 500 grams of protein, 14 grams of phosphorus, and 0.5 gram of iron.³ It is estimated that the lactating mother, through breast milk, provides a 26 week old infant with about 12 grams of protein, 76 grams of lactose, and 1.2 mg. of iron each day.²

Pork meat, an excellent source of high quality protein, thiamine, niacin,

and iron,⁴ also supplies valuable amounts of other B vitamins, as well as phosphorus, magnesium, and potassium. The thiamine content of pork is particularly important, since there are few more valuable food sources of this vitamin.⁴

Pork and pork sausage—economical, good tasting—are valuable components of the dietary of the pregnant or lactating woman. Just how valuable, is shown in the table below.

1. Toverud, K.U.; Stearns, G., and Macy, I.G.: Maternal Nutrition and Child Health, an Interpretative Review, Washington, D.C., National Research Council, Bull. 123, 1950.
2. McLester, J.S., and Darby, W.J.: Nutrition and Diet in Health and Disease, ed. 6, Philadelphia, W.B. Saunders Company, 1952, p. 241.
3. Marrack, J.R.: Food and Planning, London, Victor Gollancz, Ltd., 1943, p. 67.
4. Wolgamot, I.H., and Fincher, L.J.: Pork Facts for Consumer Education, Washington, D.C., United States Department of Agriculture, AIB No. 109, 1954.
5. Watt, B.K., and Merrill, A.L.: Composition of Foods—Raw, Processed, Prepared, Washington, D.C., United States Department of Agriculture, Agricultural Handbook No. 8, 1950.
6. Bowes, A. deP., and Church, C.F.: Food Values of Portions Commonly Used, ed. 7, Philadelphia, Anna dePlanter Bowes, 1951.

Percentages of Recommended Daily Dietary Allowances* for Pregnant (3rd Trimester) and Lactating Women Provided by 3-Ounce Portions of Cooked Pork Meats and Pork Sausage

PREGNANCY (3rd trimester)							
	Protein	Iron	Phosphorus	Thiamine	Riboflavin	Niacin	Calories
Ham, without bone, 3 oz., cooked ⁵	25.0%	17.3%	13.5%	30.0%	10.0%	26.7%	12.5%
Pork Chops, without bone, 3 oz., cooked ⁵	25.0%	17.3%	13.3%	47.3%	10.0%	28.7%	10.5%
Pork Sausage, 3 oz., cooked ⁶	17.3%	14.0%	9.2%	27.7%	10.1%	18.5%	14.7%
LACTATION							
Ham, without bone, 3 oz., cooked ⁵	20.0%	17.3%	10.1%	30.0%	8.0%	26.7%	10.2%
Pork Chops, without bone, 3 oz., cooked ⁵	20.0%	17.3%	10.0%	47.3%	8.0%	28.7%	8.6%
Pork Sausage, 3 oz., cooked ⁶	13.8%	14.0%	6.9%	27.7%	8.1%	18.5%	12.0%

*Recommended Dietary Allowances, Washington, D. C., National Academy of Sciences—National Research Council, Publication 302, 1953

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute
Main Office, Chicago... Members Throughout the United States

395
life insurance companies approve

CLINITEST®
BRAND

for rapid, reliable urine-sugar testing

reliability and standardization recognized by
9 out of 10 leading insurance companies *
convenience and time-saving appreciated by
thousands of examining physicians

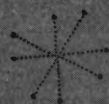
* Recent survey of 437 insurance companies

AMES DIAGNOSTICS
Adjuncts in Clinical Management



AMES COMPANY, INC • ELKHART, INDIANA
Ames Company of Canada, Ltd., Toronto

62855



Announcing: the newest advance in reserpine therapy

Eskaserp^{*}

reserpine, S.K.F.

Spansule[†]

sustained release capsules, S.K.F.

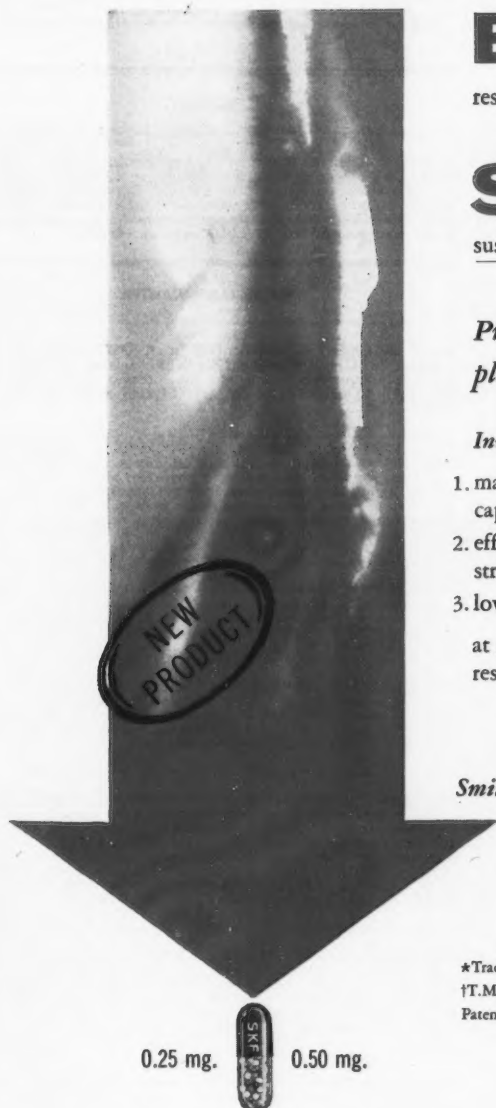
*Prolonged control of blood pressure,
plus gentle long-lasting sedation*

Investigators report these advantages:

1. maximum patient convenience—a single 'Spansule' capsule q12h insures 24-hour uninterrupted effect;
2. effective therapy with either of two low dosage strengths—0.25 mg. and 0.50 mg.;
3. low incidence of side effects;

at no increase in cost over conventional
reserpine therapy.

Smith, Kline & French Laboratories, Philadelphia



*Trademark

†T.M. Reg. U.S. Pat. Off. for sustained release capsules, S.K.F.
Patent Applied For.



"THANK YOU DOCTOR FOR PRESCRIBING PRO-ACET..."

I have never experienced
such a profound sense
of cleanliness.*

*Actual statement
of patient

PRO-ACET, the original liquid douche concentrate with:

DETERGENT ACTION (Sodium Lauryl Sulfate, U.S.P.)
BUFFERED PRECISE ACIDITY (Organic acids)

PATIENT PLEASING RESULTS AND REASONABLE COST (3 cents a quart)
CARBOHYDRATE RESIDUUM FOR DOED-ERLEIN ENHANCEMENT

PRO-ACET cleanses the vaginal vault by dispersing mucus and cellular debris with superior wetting action for penetration. Clinically Tested Acid Detergent Douching.¹ Detergents have been shown to have a "toxic action upon the bacterial protoplasm after it has penetrated" the cell.²

Available in 6 and 12 oz. bottles.

Write for information about application of Pro-Acet in your examining room.

Samples Upon Request

Pro-Acet, Inc.

2830 Seminary Ave.,
Oakland 5, Calif.

1. Devos, R. W., & Footer, W., California Medicine, 80:300 (1954).
2. Gerstenfeld, Louis, and Milanick, Vera E., "Bactericidal and Bacteriostatic Properties of Surface Tension Depressants," Am. J. Pharm., 118:306.



DIRECTIONS: To prepare vaginal douche, add one teaspoonful of PRO-ACET Concentrate to each quart of warm water and MIX WELL.
Formula for Pro-Acet Concentrate: Citric Acid, 2.5%; Acetic Acid, 4.0%; Lactic Acid, 2.0%; Sodium Lauryl Sulfate, 8.0%; Dextrose, 5.0%; Lactose (beta), 2.5%; Sodium Acetate, 2.5%; Methyl Paraben, 0.2%; all chemicals U.S.P. in a solution of Distilled Water.

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HOSPITAL ADMINISTRATOR WITH INVESTMENT, wishes to associate with M.D. group to organize or reorganize hospital. Background of successful management and creative ability. Outstanding knowledge of hospital planning, community relations, medical staff relations, equipment, purchasing, financial control, departmental organization, personnel management. Box 91,520, California Medicine.

PHYSICIANS WANTED

MANY EXCELLENT OPPORTUNITIES in all SPECIALTIES and GENERAL PRACTICE throughout the WEST. Salaries, percentage, partnerships, groups. For information please contact Norma Rohl, THE MEDICAL CENTER AGENCY, 26 O'Farrell Street, San Francisco, YUkon 2-3412.

OPENING AVAILABLE for full time assistant county physician in 135 bed hospital. Full time staff of 3 physicians with all major services covered by qualified consultants. Excellent opportunity to gain experience. Can accept as much responsibility as capable. Salary to \$10,000 yearly. Apply to administrator, Humboldt County Hospital, Eureka, California.

GENERAL PRACTITIONER wanted in an established group-type practice located in Paramount, California. No capital outlay required. Begin with a substantial salary, become an associate member. Staff privileges at nearby hospitals available. Apply P. O. Box 578, Paramount, California.

GENERAL PRACTITIONER is wanted for individual location in a small town and rural area of Central California, to practice in conjunction with, and assist General Practitioner well established in this community for past 20 years. New hospital in this community to be completed in 1956. Box 91,605, California Medicine.

CALIFORNIA LICENSED PHYSICIAN SURGEONS WANTED: Contact us for registration forms and information on our many excellent opportunities in California. Outstanding openings in GENERAL PRACTICE, INDUSTRIAL AND THE SPECIALTIES . . . associations, assistantships, groups, locations for private practice in NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA. PACIFIC COAST MEDICAL BUREAU agy., 703 Market Street, SAN FRANCISCO, or 510 West Sixth Street, LOS ANGELES.

CALIFORNIA—IMMEDIATE OPENING for Board eligible or certified psychiatrist as chief psychiatrist, correctional facility at large reception center-clinic for juvenile delinquents in the outskirts of Los Angeles. Base salary according to training and experience; \$12,600 if applicant is Board certified. Write State Personnel Board, 801 Capitol Avenue, Sacramento 14, California.

PUBLIC HEALTH PHYSICIAN (TB) position is available in Los Angeles County Health Department. California State Physicians and Surgeons Certificate and 1 year's experience in the diagnosis and treatment of tuberculosis including the administration of pneumothorax treatments are required. Write Dr. Gilbert, 241 North Figueroa, Los Angeles 12, California.

CLASSIFIED ADS ARE PAYABLE IN ADVANCE

(Continued on Page 82)

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Recognized by the American Medical Association

Member: American Hospital Association

Exclusively for the treatment of

Chronic Alcoholism

by the Conditioned Reflex
and Adjuvant Methods

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Telephone CYpress 2-2641

DUAL *anti-infective*
anti-inflammatory ACTION
IN DERMATOSES

TERRA-CORTRIL*

brand of oxytetracycline and hydrocortisone

topical ointment



supplied: in ½-oz. tubes; 3% oxytetracycline hydrochloride (TERRAMYCIN®) and 1% hydrocortisone, free alcohol (CORTRIL®) in a specially formulated, easily applied ointment base.
also available: CORTRIL Topical Ointment and CORTRIL Tablets.

PFIZER LABORATORIES Division, Chas. Pfizer & Co., Inc. Brooklyn 6, New York

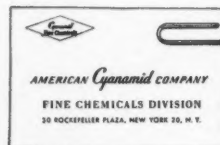
*Trademark



unexcelled among sulfa drugs... for safety

Valid tests, clinical trials, and long use proved the Triple Sulfas offer greater relative safety than single sulfas, and they compare favorably with all potent therapeutic agents in this respect. In addition, the Triple Sulfas are distinguished for their established efficacy, broad-spectrum activity, and outstanding economy. Alone or in combination

with other therapeutic agents, the Triple Sulfas are available from leading pharmaceutical manufacturers under their own brand names. Remember: not all sulfas are Triple Sulfas. Ask any medical representative about the Triple Sulfa products his company offers!



HOW **Upjohn** OFFERS TRIPLE Sulfas

Biosulfa* Tablets are a combination of the Triple Sulfas and penicillin G, prepared in three strengths of penicillin—125M, 250M, and 500M. Resistance to penicillin is significantly diminished by the simultaneous use of sulfonamides, and the spectrum of activity is considerably broadened. **Biosulfa** is extremely useful in treating infections such as pneumonia, tonsillitis, sinusitis, otitis media, acute mastoiditis, scarlet fever, gonorrhea, urinary infections, and enteritis associated with generalized infections in infants. Upjohn also offers Triple Sulfas in various other forms.

*Trade-Mark Reg. U. S. Pat. Off.; The Upjohn Company, Kalamazoo, Mich.

DESTROYED

"... INDIVIDUAL
TRICHOMONADS ARE
DESTROYED WITHIN
10 TO 14 SECONDS
AFTER CONTACT WITH
A 1:250 DILUTION
[VAGISEC LIQUID]."

Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955.

In his new J.A.M.A. article, Dr. Carl Henry Davis reviews his experience with the new trichomonadicide which he and C. G. Grand, research physiologist, developed under the name of "Carlendacide." Now available as VAGISEC jelly and liquid, it has been shown on clinical trial to clear up even stubborn cases of vaginal trichomoniasis. "Adequate office and home treatment can effect a cure of T. vaginalis infections, if limited to the vagina, within four weeks."¹

Synergistic action. VAGISEC liquid attacks the trichomonad with three surface-acting chemicals.² The *chelating agent* tears out the calcium of the calcium proteinate from the cell membrane of the trichomonad. The *wetting agent* lowers surface tension and removes waxes and lipid materials from the cell membrane. The *detergent* denatures the protein. With the cell membrane destroyed, the cytoplasm imbibes water from its surroundings, swells up and explodes.³ *Synergism accomplishes this within 15 seconds!*

Thorough penetration. VAGISEC jelly and liquid penetrate the cellular debris and mucoid material that line the vaginal wall and reach hidden trichomonads that lie buried among the rugae. They dissolve mucinous material and explode hidden trichomonads as well as trichomonads on the surface of the vaginal wall.⁴

Trichomonads destroyed in 15 seconds. No other agent or combination of agents kills the trichomonad in this specific fashion, or with the speed of VAGISEC

JULIUS SCHMID, INC. gynecological division
423 West 55th Street, New York 19, N. Y.

VAGISEC is a trade-mark of Julius Schmid, Inc. †Pat. app. for

are killed in well under 30 seconds. The cumulative or synergistic action of detergent, chelating agent, and wetting agent has produced a compound lethal for various animal micro-organisms in a dilution that is relatively nontoxic and nonirritating.¹

Motion pictures taken through a phase-contrast microscope at 24 frames per second show that individual trichomonads are destroyed within 10 to 14 seconds



Fig. 2—above, photomicrograph of T. vaginalis organism 10 seconds after contact with 1:250 solution of Carlendacide. Below, photomicrograph of organism 12 seconds after contact with solution.

after contact with a 1:250 solution of Carlendacide (fig. 2 and 3). Owing to the presence of blood serum or agar in the culture medium, contact with some flagellates on a slide is delayed, but in our tests all have been killed

as drinking water solution as drinks latter group had 1:255 gm.) more to

Clinical Trials. Carlendacide in 1 who had T. vagi effort was made 1 week, two the sec patient did not re and night, using a lendacide to a qu lice treatment o Miller speculum, lates, drying the ring forceps, the solution of Carle ments suggested

TABLE 2—Effectiveness

Excess surface and
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cleansing of the
thum, it should b
since it cannot
douché once or
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days before she
infection is limi
to eliminate all
of treatment; he

4. Davis, C. H.
and of Trichomon
1954, 1955.

liquid.² Dr. Davis studied this action under the phase-contrast microscope and actually saw individual trichomonads destroyed within 15 seconds of contact with a 1:250 solution.³

Clinical tests. VAGISEC liquid has been clinically tested by over 100 leaders in obstetrics and gynecology. Those who have followed the plan of treatment have had better than 80 per cent of cures among non-pregnant patients with one course of treatment.¹

The Davis technic.† The Davis technic is a combination of office treatment with VAGISEC liquid and prescribed home treatment with both VAGISEC jelly and liquid.³ Dr. Davis says that "office treatment is an essential part of the technic."

Write for: reprint of Dr. Davis' article,¹ file card giving complete details of Davis technic, and pad of patient instruction sheets for home treatment. Address Julius Schmid, Inc., 423 West 55th Street, New York 19, N. Y.

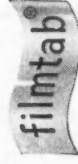
Bibliography

1. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955.
2. Davis, C. H.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954.
3. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.
4. Davis, C. H.: J.A.M.A. 92:306 (Jan. 26) 1929.

Active ingredients: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetraacetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

specific against coccic infections

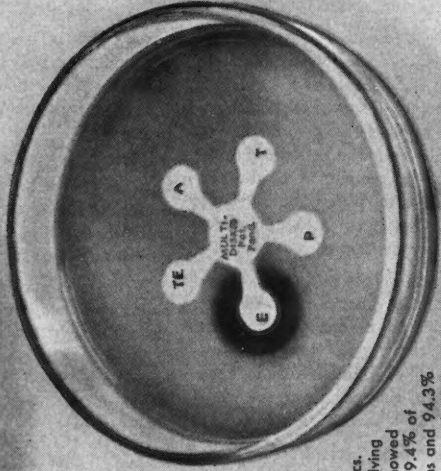
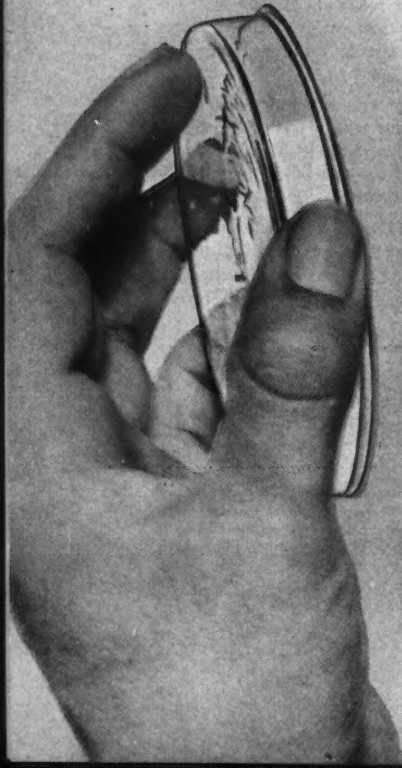
Now, you can prescribe *specific therapy* against staph-, strep- or pneumococci by simply writing *Filmtab ERYTHROCIN Stearate*. Since this coccic group causes most bacterial respiratory infections (and since these organisms are the very ones most sensitive to ERYTHROCIN) doesn't it make good sense to prescribe *Filmtab ERYTHROCIN* when the infection is coccic?



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Erythromycin Stearate, Abbott)

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This blood agar plate shows a strain of beta hemolytic enterococcus. Note extreme sensitivity of this organism to ERYTHROCIN—yet it easily resists the other antibiotics.

Additional data: A study* involving 202 enterococci strains showed sensitivity to erythromycin in 99.4% of alpha hemolytic strains and 94.3% of beta hemolytic strains.

with little risk of serious side effects

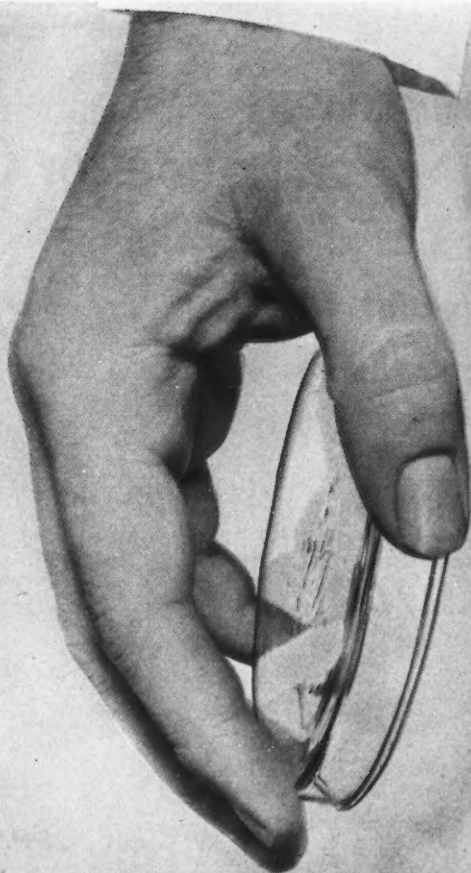
Since ERYTHROCIN is inactive against gram-negative organisms, it is less likely to alter intestinal flora—with an accompanying low incidence of side effects. Also, your patients seldom get the allergic reactions sometimes seen with penicillin. Or loss of accessory vitamins during ERYTHROCIN therapy. *Filmtab* ERYTHROCIN Stearate (100 and 250 mg.) is supplied in bottles of 25 and 100 at pharmacies everywhere. **Abbott**

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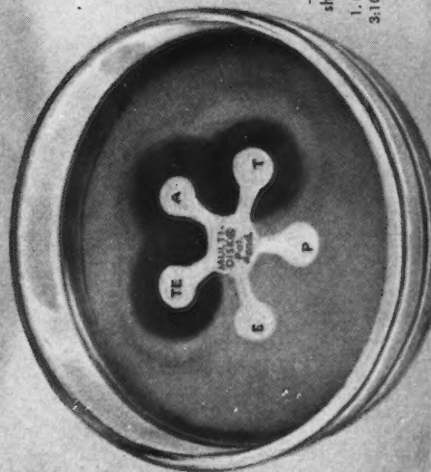


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INTESTINAL FLORA

This sensitivity test shows ERYTHROCIN and the same antibiotics against a typical intestinal strain of *E. coli*. Note that ERYTHROCIN and penicillin do not affect this gram-negative organism—although the other antibiotics show marked inhibitory action.

1. Eisenberg, et al, *Antib. & Chemo.*, 3:1026-1028, Oct., 1953.



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(Continued from Page 74)

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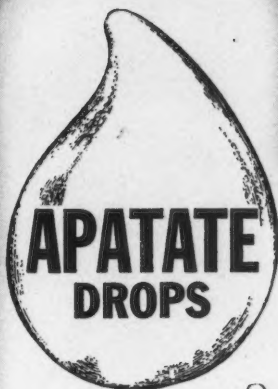
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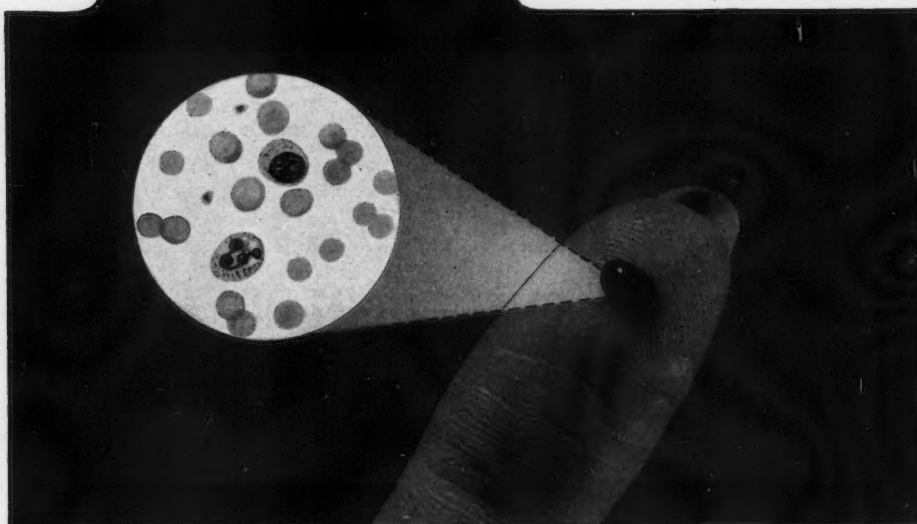


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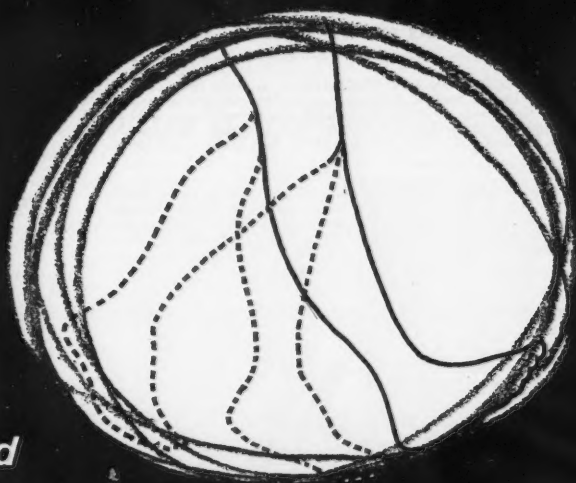
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1. Forsham, P. H., et al.: Paper presented at First Internat. Conf. on Prednisone and Prednisolone, New York, N. Y., May 31-June 1, 1955.

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(Continued from Page 82)

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Folic Acid..... 1 mg.
Pyridoxine HCl (B₆)..... 0.5 mg.
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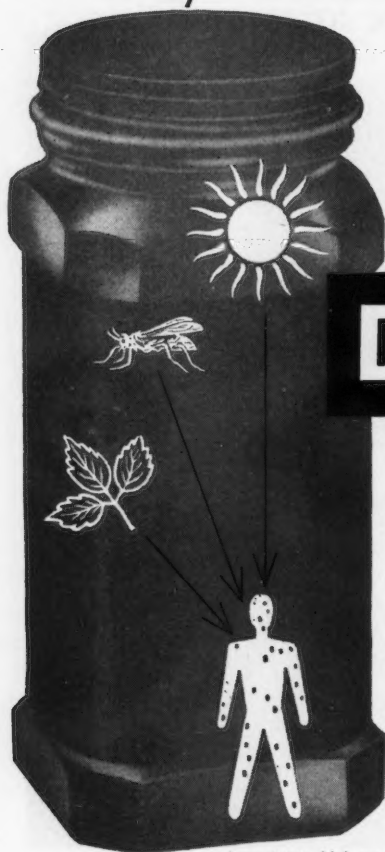
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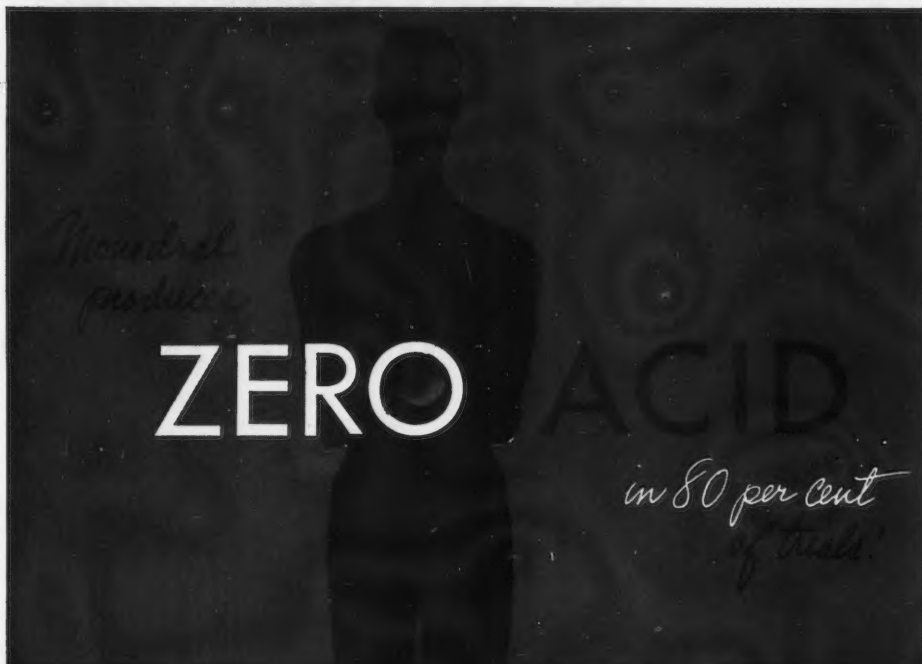
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1. Holland, M. H.: J. Med. Soc. New Jersey 49:469, 1952.

2. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. M. 53:2233, 1953.

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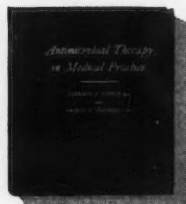
Latest data on effectiveness of Furadantin®

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in urinary tract infections

Investigators:

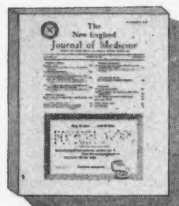
Flippin, H. F., and Eisenberg, G. M.:
Antimicrobial Therapy
in Medical Practice, Philadelphia,
F. A. Davis Co., 1955, p. 40.



Latest data on effectiveness of Furadantin

Clinical studies have demonstrated rapid
clinical response in cases of
cystitis and pyelonephritis,
including infections caused by
refractory organisms.

Trafton, H. M., et al.: New
England J. Med. 252: 383, 1955.



13 acute cases . . . 6 appeared cured . . .
6 markedly improved with no relapses.

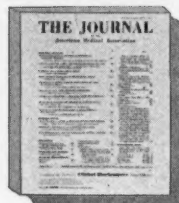
36 chronic infections:
30 showed symptomatic improvement,
frequently within 24 hours.

Beutner, E. H., et al.:
Antibiotics Annual, 1954-1955,
New York, Medical
Encyclopedia, Inc., 1955, p. 988.



30 chronic urinary tract infections:
Of 47 strains of bacteria isolated
from these patients, 29 strains (62%)
were eradicated by Furadantin.

Hasen, H. B., and Moore, T. D.:
J.A.M.A. 155: 1470, 1954.



Of patients with acute urinary tract
infections, 95.7% were benefited. Patients with
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organic or obstructive lesions were
benefited in 82% of cases.

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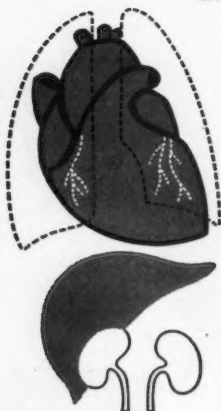
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supplies:

	Vitamin B ₁₂ (mcg.)	Biotin (mcg.)	Panthenol (mg.)	Pyridoxine (mg.)	Niacinamide (mg.)	Riboflavin (mg.)	Thiamine (mg.)	Ascorbic acid (mg.)	Vitamin D (units)	Vitamin A (units)
DECA-VI-SOL 10 Nutritionally Significant Vitamins INCLUDING VITAMINS B ₁₂ AND B ₆	1	30	3	1	10	1.5	1	50	1000	5000
POLY-VI-SOL 6 Essential Vitamins					6	0.8	1	50	1000	5000
TRI-VI-SOL 3 Basic Vitamins								50	1000	5000



All are supplied in 15 cc., 30 cc. and economical 50 cc. bottles with the new Mead calibrated unbreakable plastic 'Safti-Dropper.' It will not break even if the baby bites it.

Deca-Vi-Sol—the new, more comprehensive formula including vitamins B₁₂ and B₆—permits even greater flexibility in specifying vitamins for infants and children. Like Poly-Vi-Sol and Tri-Vi-Sol...

Deca-Vi-Sol is... **highly stable**... refrigeration not required... **potency assured**... **readily accepted**... **exceptionally pleasant flavor**... **no unpleasant aftertaste**... **full dosage assured**... can be dropped directly into the baby's mouth.

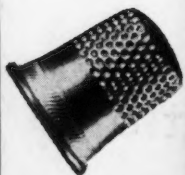


For older children, specify **Mulcin**, the good-tasting, orange-flavored vitamin liquid for teaspoon dosage.

MEAD

SYMBOL OF SERVICE TO THE PHYSICIAN

MEAD JOHNSON & COMPANY • EVANSVILLE, INDIANA, U. S. A.



"a thimbleful of dosage
for
a
handful
of
baby"



2.5 cc. Hypertussis eliminates massive dosage in whooping cough treatment or passive prevention. A crystal-clear homologous protein, 2.5 cc. Hypertussis contains the gamma globulin equivalent of 25 cc. of human hyper-immune serum. This specific anti-pertussis fraction is concentrated 10-fold to obviate the pain and inconvenience associated with massive dosage—giving you the advantage of

"a thimbleful of dosage for a handful of baby."

Hypertussis will not interfere with the use of antibiotics where they may be indicated.

2.5 cc. Hypertussis is supplied in 2.5 cc. (one dose) vials, ready for immediate intramuscular injection.



CUTTER Laboratories
BERKELEY, CALIFORNIA

For whooping cough prophylaxis and treatment specify

2.5cc. HYPERTUSSIS[®]
(anti-pertussis serum-human)

